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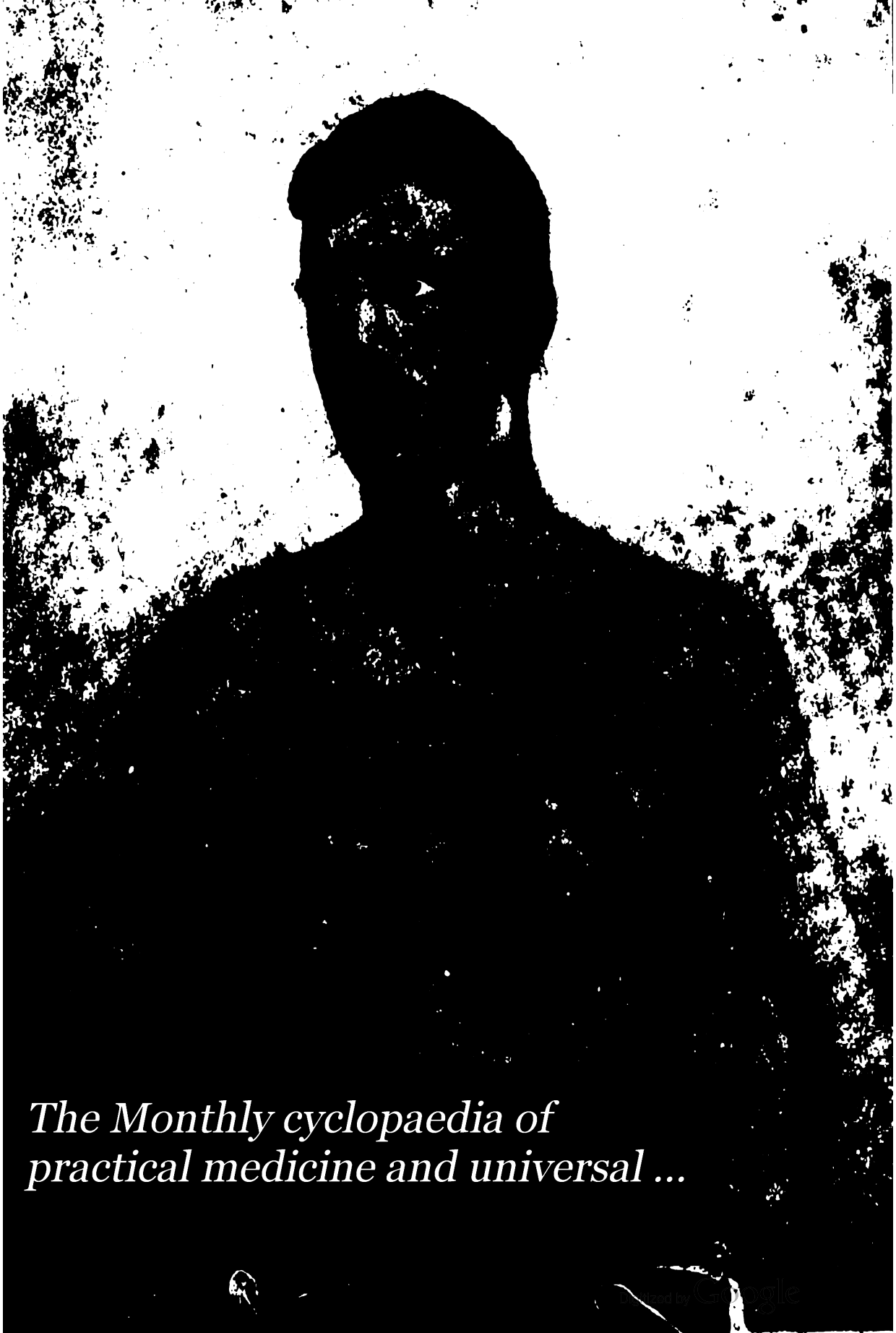
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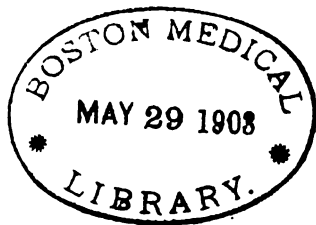
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Editorial.

THE URIC-ACID DIATHESIS.

THE older view as to the origin of uric acid—i.e., that it is, as held by Liebig, Wohler, and Frerichs, a product of albuminoid decomposition and a preliminary process to the production of urea—no longer prevails. Benecke in 1874 showed that the greater part of the urea eliminated did not originate from oxidized uric acid, while Horbaczewski in 1891 demonstrated that, just as the nuclein of pus-cells and that of the blood-corpuscles of birds could produce hypoxanthin, guanine, and xanthin, as noted by Kossel, so could it produce uric acid *in vitro* under the effects of marked oxidation. Nuclein administered to animals is, moreover, known to

sensibly increase its production, a fact which led Horbaczewski to conclude that normally-eliminated uric acid originates from nuclein, which, in turn, is liberated through the destruction of cellular structures, and especially of leucocytes. This investigator further noted that leucocytosis was attended with increased elimination of uric acid. These results were sustained by Kuhn, who observed that pure nuclein administered in large doses was eliminated in the form of uric acid, and further confirmed by Weintraub, Umber and Mayer, after a series of counter-experiments.

Dunin and Nowaczek¹ studied the question from another direction: *i.e.*, in five cases of pneumonia, in which disease leucocytosis is very marked. They found that the quantity of uric acid eliminated rises greatly the day before the crisis: *i.e.*, when absorption of the exudation and destruction of the leucocytes begin. Immediately after the crisis the uric-acid ratio rose to three times that of the precritical period and continued high several days. It seems plain, therefore, that uric acid originates from nucleins, which, in turn, are decomposition products of the cells of the organism, and particularly of leucocytes.

The nuclein derivatives—hypoxanthin, guanine, and xanthine—just referred to, and another, adenine, of the same class, have since been termed “alloxuric bases,” by Kossel and Kruger, but E. Fischer, after exhaustive investigations, traced them all to a carbon-hydrogen nucleus, the *purin* nucleus, from which many important derivatives—uric acid, caffeine, theobromine, etc., besides the nuclein bases mentioned above—can be obtained. This feature obviously demonstrated a close chemical relationship between these bodies and various substances,—cocoa, coffee, tea, meats, sweet-bread, liver, and others rich in nucleins,—and normally led to the conclusion that articles of food, which had long been associated pathogenically with the production of uric acid, could also act as sources of nuclein bases. This was confirmed by experiments in healthy subjects, from whose urine the latter were obtained daily in varying proportions.

It then became a question as to which of the two sources of nuclein prevailed: *i.e.*, whether they were derived from body-cells,—leucocytes, etc.,—as thought by Horbaczewski, or from articles of food, as thought by Fischer. Experimental data in favor of Horbaczewski's view have steadily accumulated, while Fischer's position has as steadily gained ground. The prevailing view, therefore, is that the alloxuric bases are derived from the nucleins, of which the body-cells and particularly leucocytes are the source, and from certain articles of food.

Again, Horbaczewski, in a series of experiments, observed that splenic pulp allowed to digest several hours with blood at the body-temperature gave rise to a marked increase of uric acid and nuclein bases, but that the relative amounts of these products depended entirely upon the degree of oxidation. When simple decomposition prevailed, the nuclein bases were found to predominate, while the more advanced oxidation processes led to the formation of uric acid. That the production of uric acid must be an advanced stage of the processes through which the waste-products are prepared for excretion is thus made probable. This is sustained by the high relative proportion of oxygen—higher even than urea: $(\text{HN}_2)\text{CO}_2$ —which

¹ Zeitschrift f. klin. Med., B. xxxii, 1897.

its formula indicates, and the gradual progression toward this high proportion which the alloxuric bases show: *i.e.*, hypoxanthin, $C_5H_4N_4O$; xanthin, $C_5H_4N_4O_2$; and uric acid, $C_5H_4N_4O_3$. Feeding with bodies rich in nucleins—spleen-pulp, thymus, etc.—causes a proportionate increase of the most advanced of the alloxuric bodies, uric acid, and, in health, the greater part of the nitrogen of the nuclein metabolism is excreted, not as nuclein bases, but as uric acid. All these facts tend to show that uric acid is not only the normal end-product of nuclein metabolism, but also the most highly oxidized of the alloxuric bodies.

If this conclusion prevails, what is the utility of the oxidation of alloxuric bases? This soon appears when their toxicity, as compared to that of uric acid or urea, is realized. Uric acid, notwithstanding the prevailing belief, has been found harmless experimentally. It has been fed to animals or injected into their blood in very large doses without giving rise to untoward symptoms. Even its continued administration has failed to bring about the least pathological change in the structures which it is generally thought to assail, as shown experimentally by A. C. Croftan.¹ True, it may have been found in very marked quantities in the serum



Uric-Acid Crystals.

of some gouty subjects during the active stage, as observed by Garrod; but if the acute symptoms of this disease are due to uric acid, why do they not appear in such conditions as leukæmia, in which uric acid is also present? Uric acid is insoluble in the body-fluids, and, if it irritates the renal structures at all, it probably does so through the asperities of its crystals (see wood-cut), since as a chemical body it is innocuous. Even the view that gouty disorders should be ascribed to its influence alone hardly stands, since Pfeiffer and Vogel and other investigators have found that the proportion of uric acid, when ascertained by modern methods during or between attacks of gout, shows but little variation. That this clinical observation does not apply to all cases, however, is probable.

Urea is also a benign substance; Bouchard found, in a series of painstaking experiments, that it was even less toxic than sugar. Whereas it took 2.5 grammes of sodium bicarbonate to kill 1 kilogramme of animal, from 5.5 to 6.3 grammes of

¹ Jour. Amer. Med. Assoc., July 8, 1899.

urea were required to reach the same result. Water and normal albumin alone, of the animal fluids, are less toxic than urea. As to its influence on the kidneys, Bouchard was led to conclude that, although a product of disassimilation, it played a useful rôle in the economy as a diuretic. All the work done since, in this line, has but confirmed his teachings.

Quite another story is unfolded, however, when the alloxuric bases are analyzed from the same stand-point. As products of worn-out nuclei which have served their purpose in elaborating blood-corpuscles, both red and white, and other cellular elements,—an earnest of their vast importance in the organism,—their effects are those of high-powered alkaloids. Readily soluble in the relatively large proportion of menstruum which the body-fluids afford them, they are carried in all directions, and become the source of the various phenomena usually ascribed to “gouty diathesis,” and now credited to them by the more recent writers. Gaucher¹ and Kolisch,² in the order named, long ago referred to the alloxuric bases—xanthin, hypoxanthin, adenin, and guanin—as violently toxic agents, while Levison ascribes to them the renal lesions which are invariably found post-mortem in gouty subjects.³ The pathogenic effects of these bodies have since then been emphasized by several investigators, including Croftan,⁴ who, in a series of experiments, observed that “both xanthin and hypoxanthin, when injected hypodermically in the strength of a 0.3- to 0.7-per-cent. watery solution for a period of several months produced granular degeneration of the epithelial cells lining the tubuli contorti and a proliferation of the endothelium of the intertubular capillaries.”

The non-toxic nature of uric acid and of urea, the violent toxicity of the alloxuric bases, and the relative position of uric acid among the latter as the most highly oxidized body of them all seem fully to sustain the view that the alloxuric bases are oxidized in the organism and thus converted from physiological toxics to uric acid, an inert body.

The two important features of modern teachings on this subject, therefore, may be said to be:—

1. That uric acid is harmless chemically, but probably irritating to the kidneys owing to the asperities of its crystals.
2. That the so-called “uric-acid diathesis” and the various phenomena, including the gouty kidney, ascribed to uric acid, are really due to the toxic effects of the alloxuric bases.

C. E. DE M. SAJOUS.

(This subject will be continued in the next number.)

¹ Thèse de Paris, 1884.

² Wiener med. Wochenschrift, 1895 (quoted by F. Levison, in *Annual and Analytical Cyclopædia of Practical Medicine*).

³ *Annual and Analytical Cyclopædia of Practical Medicine*, p. 364, volume iii.

⁴ *Loc. cit.*

Cyclopædia of Current Literature.

ADRENALIN.

The active principle of the suprarenal gland, "adrenalin," is furnished in the form of tablets, which are readily soluble. These are particularly useful for general use, because of the ease with which a fresh solution can be made extemporaneously. A solution of 1 to 10,000 and 1 to 5000 may be used for the eye and a 1 to 1000 solution for the throat. If applied to the interior of the nose, it blanches the membrane almost immediately, and in the examination of the naso-pharynx it is of great assistance, because of the shrinkage of the tissues thus produced. In profuse bleeding it is of little use, because it is so rapidly washed away. In acute coryza it will relieve the swelling of the turbinates almost immediately and stop the profuse watery discharge, and for temporary relief in hay fever it has no equal. In a case of acute laryngitis the voice was restored in twenty-four hours, and the pain very materially lessened by five applications of the spray. In acute pharyngitis and tonsillitis the relief is immediate, and is more lasting if combined with cocaine. In grip or other acute inflammations of the mucosa it is valuable in relieving the swollen mucosa and thus draining the cavities. N. L. Wilson (*Jour. of Laryn., etc.*, Nov., 1901).

ANGINA, IODINE IN ACUTE.

For ten years tincture of iodine has been personally used in all forms of angina, though not in the pure state, but diluted with glycerin and water, and a case is yet to be recorded in which its beneficial local action was not prompt and very marked. The formula given by Professor Seibert is as follows:—

R Tincture of iodine, 1 fluidrachm.
Potassium iodide, 15 grains.
Carbolic acid, 10 minims.
Glycerin, $\frac{1}{2}$, fluidounce.
Water, enough to make 4 fluid-ounces.

The treatment may be prefaced with a cleansing spray of hydrogen dioxide, and the above-mentioned solution used thoroughly. The pure tincture of iodine is too severe for many sensitive throats. The relief in many cases is instantaneous, continuing until a permanent cure is effected. B. Ray Browning (*New York Med. Jour.*, Dec. 14, 1901).

APPENDICITIS WORK, SOME OF THE AVOIDABLE CAUSES FOR DISASTER IN.

If one stepped out upon the street and got ten healthy policemen, and put half a yard of gauze into their abdominal cavities to-day, he would find at the end of a week that he did not get them in time. That is an excuse which is so often offered when one tries to make a weak and poisoned appendicitis patient bear what strong men cannot bear. If, in addition to the mechanical insult offered by gauze packing, is added the chemical insult of iodoform, one would have still fewer of these policemen in time. They would have what most house-surgeons would call septicæmia. The differential diagnosis between septicæmia and dangerous iodoform poisoning is difficult to make, excepting on the objective evidence offered by the presence of iodoform in the wound, the presence of free iodine in the urine, and a wound of healthy appearance while the patient is failing. In insidious iodoform poisoning the wound looks well while the patient does not. In septi-

cæmia neither the wound nor the patient looks well. That is a constant diagnostic difference. Gauze packing shocks the patient, lessens his natural resistance, and consequently interferes with his manufacture of phagocytes. Treatment of to-day should avoid interference with the patient's ability to furnish abundant leucocytes. Accessible statistics show that gauze packing is not needed in appendicitis work. Extensive and multiple incisions lessen the patient's ability to furnish leucocytes for the occasion when all of his natural protective powers need to be respected by the surgeon. A beginner needs a great deal of room at the patient's expense, but it is in the interest of the patient to work chiefly by the sense of touch through small incisions. In other words, to come as nearly as possible to letting the patient alone. Another approach toward the idea of letting the patient alone consists in rapid work without much exposure or handling of bowel. Almost any appendicitis operation, no matter what the complications, should be completed in from fifteen to thirty minutes. Many a patient who is holding finely to his natural resistance at the end of fifteen minutes has lost it at the end of forty-five minutes. The idea that the surgeon must get all of the pus out of the peritoneal cavity is out of date. The leucocytes will attend to the matter more effectually. R. T. Morris (*American Medicine*, Nov. 30, 1901).

BILIARY COLIC.

In patients who suffer at various intervals from attacks of biliary colic unaccompanied by fever, jaundice, and increase in volume of the liver or gall-bladder, and when gall-stones are not to be found in the fæces, the presence of

adhesion around the gall-bladder should be suspected. An operation is the only rational treatment. The adhesions must be separated and the affected parts of the gall-bladder covered with peritoneum, ablation of the gall-bladder being reserved for cases in which this organ is hopelessly diseased. F. Gangitano (*Riforma Medica*, Sept. 9, 1901).

BLOOD IN INFANCY AND CHILDHOOD.

No view of the blood-picture in disease can be complete which does not include the fundamental differences between infant and adult blood in health, as these so largely modify the changes intervening in the morbid state. Three specific and characteristic factors may be noted: 1. The blood of an infant tends constantly to resume embryonal characteristics when the clinical balance is disturbed. 2. Such disturbances produce blood-changes out of proportion to the exciting cause, as measured by the standard of later life. 3. Lymphocytosis is pronounced. Clinically, moreover, the spleen in the various anæmias of infancy, in rickets, syphilis, and chronic intestinal affections, so tends to enlargement that the single factor, splenomegaly, has not the significance of later life, and the diagnosis must be made on the microscopical findings in the blood and viscera.

The clinical determination of abnormal states in infancy and childhood, from the examination of the blood, must proceed with the ill balance and the exaggeration of the normal type in mind. Frank poverty of the blood from slight disorders of nutrition, from hæmorrhage, from gastro-enteric disease, from rickets, syphilis, and tuberculosis, the reaction of the child organism

to improper hygiene, the susceptibility to metallic poisons, make it essential that the estimation of a blood-count appropriate to the age and condition, should be based, not only on the calendar, but on the development of the child. The diagnosis of an idiopathic blood affection in a rachitic child must eliminate the blood modification of this condition, namely: the predominance of the "young" leucocyte, a total leucocytosis varying from 15,000 to 40,000, the marked anæmia with splenic enlargement, the presence of nucleated red cells in the blood-stream with changes in the size and shape of the red cells, and polychromatophilic staining. One million red cells to the cubic millimeter does not appear to be an uncommonly low count in the graver cases, and rapid decrease to an even lower level has been noted.

In chronic gastro-intestinal disorders the anæmia is progressive, and a moderate leucocytosis is stated to be the rule.

Typhoid fever and grip in childhood, as in the adult, are distinguished by an impoverished red count, and by the absence of leucocytosis, or actual hypoleucocytosis, except in the presence of inflammatory complications.

In pneumonia the significance of leucocytosis follows the adult rule. It is absent in the very mild or in the fatal cases. It is usually high, but, where the reaction of the white cells is extreme, the prognosis is grave.

Tuberculosis without cavity-formation or mixed infection, the miliary type, and uncomplicated tuberculous meningitis, are unattended by leucocytosis, which fact is of service in the diagnosis.

Most observers are agreed that leucocytosis in scarlet fever is the rule, and

that eosinophilia is constant and persistent, so that the disease may thus be distinguished from measles, in which there is no increase in the white cells, except with severe complicating bronchitis, and where the acid-staining cells are inconspicuous.

The classification of the anæmias of infancy offers many difficulties. Practically, the subject has hardly advanced beyond the very simple order introduced by Monti, that primary anæmia is the pernicious form, that secondary anæmias are mild and severe, and that a leucocytosis may or may not be present. G. U. Light (New York Med. Jour., Nov. 30, 1901).

CANCER.

The early and radical use of the knife offers the only possible cure for cancer. The theory that cancer is a local manifestation of a constitutional dyscrasia has been abandoned. The fact that cancer is at first a strictly local disease and becomes regional and general later by extension and metastasis has been accepted. If the diagnosis of cancer can be made early, while the disease is yet local, and if its anatomical position is such as to permit of its complete removal, the prognosis is good. If the diagnosis of cancer is delayed until the disease has become regional by extension through the lymphatics, the prognosis is bad. If the diagnosis of cancer is postponed until the disease has become general by dissemination through the veins, the prognosis is hopeless.

Second only in importance to early diagnosis is the completeness of the operation for the removal of the infected tissue. Heidenheim, by exhaustive research, has shown the direction of the regional extension of cancer, and taught the surgeon the necessity of not only re-

moving the organ in which the disease originated, but the adjacent lymphatics as well. As operations for cancer have become more radical, the ultimate results have become more favorable. Stuart McGuire (Carolina Med. Jour., Nov., 1901).

CATHETERS, STERILIZATION OF.

The conclusions arrived at regarding the sterilization of catheters are:—

1. An infected soft-rubber catheter cannot be completely sterilized by boiling under four and one-half hours.

2. Mechanical cleansing from all dried pus, coagulated blood, or mucus will render sterilization easier and will demand a shorter time to be effective.

3. Elastic (English web) catheters and soft-rubber catheters can be repeatedly boiled for five or more minutes without roughening of their surfaces or diminution of their elasticity and strength.

4. Chemical sterilization by immersion in a 1 to 2000 mercuric-chloride solution for five minutes does not sterilize any variety of catheter which has become infected, at best only inhibiting the growth of the germs, for, if the mercuric salt be precipitated by ammonium sulphide, the germs will grow freely when implanted in culture-media.

5. The results of experiments indicate that chemical sterilization should never be employed for catheters which are to be retained in the bladder for any length of time, unless subjected to a very prolonged action of the mercurial salt, lest the merely inhibited germs develop.

6. Should corrosive sublimate be employed for the sterilization of catheters, it must be in a concentrated solution and the catheter must remain in it for a much longer time than the usual

period considered amply sufficient in the laboratory, no mere washing with any chemical solution being efficient for an infected instrument.

7. Formalin-vapor will sterilize infected instruments in twenty-four hours; how much shorter time will be sufficient has not as yet been determined.

8. All methods of sterilization commonly employed should be continued for much longer periods than the minimum time required for destruction of germs in the laboratory.

9. English-web catheters can apparently be more readily sterilized by heat than can soft-rubber catheters, probably on account of their interior construction. C. B. Nancrede and W. H. Hutchings (Medical News, Nov. 23, 1901).

CORNES.

Perhaps the best method for securing the partial removal of corns by the application of chemical substances is that recommended by Unna. A ring of glycerin-jelly is painted around the circumference of the corn so as to form a raised rampart. A piece of salicylic plaster-mull is then cut to the size and shape of the central depression, and applied to the surface of the corn. This is then covered with a layer of glycerin-jelly, and, before it sets, a pad of cotton-wool is applied to the surface. This process is repeated as often as is necessary, until the horny layer of the corn separates and is cast off.

If the point of a sharp, thin-bladed knife be introduced at the groove which runs round the margin of the corn, and be made to penetrate toward its central axis, by the exercise of a little manual dexterity the horny part of the corn can be easily made to separate from the

parts beneath. This method of removal is one which is much in favor with chiropodists.

Any method of treatment, however, to be curative must secure the removal of the entire corn together with the underlying bursa.

Having taken every precaution to render the operation aseptic, a spot is selected for the injection of the anæsthetic solution. At this point the skin is rendered insensitive by the application of ethyl-chloride, and 5 minims—more or less—of a 4-per-cent. solution of eucaïne is injected into the subcutaneous tissue beneath the corn. Having waited a few minutes, the superficial parts at the site of the incision are rendered insensitive by ethyl-chloride. Anæsthesia is now complete, the process itself being painless, and the operation may at once be commenced. Two hemi-elliptical incisions meeting at their extremities are made through the skin around the circumference of the growth, care being taken that they penetrate well into the subcutaneous tissue. Seizing the parts included in the incision with a pair of dissecting forceps, a wedge-shaped piece of tissue—including the corn, a layer of skin and subcutaneous tissue, and the bursa, if present—is dissected out. The oozing is pretty free, and it is sometimes necessary to torsion a small vessel; but the hæmorrhage is never severe. The edges of the wound are brought together by one or two fine sutures; an antiseptic dressing is applied, and the wound left to heal—primary union in a few days being the rule. The net result is the production of a layer of scar-tissue at the former site of the corn. It might be thought, perhaps, that the formation of a scar on an exposed position, where it was liable to be subjected to pressure and friction,

would lead to untoward results; but such in practice is not the case.

The chief advantages to be derived from the complete excision of corns are that, as a method of treatment, it is safe, speedy, and painless; while the results, as far as a cure is concerned, are permanent and effected at a minimum of time and trouble. E. H. Freeland (*Edinburgh Med. Jour.*, Nov., 1901).

DACRYOADENITIS AND CONJUNCTIVITIS, TUBERCULAR.

The study of a personal case and of twelve other reported cases appears to warrant the following conclusions being drawn:—

1. Tuberculosis of the conjunctiva may be either ectogenous or entogenous; tuberculosis of the lacrymal gland must be hæmatogenous.

2. The presence of the tubercle bacillus in tuberculous conjunctivitis and tubercular dacryoadenitis is not a *sine qua non* of the disease. In personal case, repeated examination of the matter from the ulcers of the conjunctiva failed to show the presence of tubercle bacilli, nor did inoculation in animals produce the disease. Burnett speaks of a case he observed for more than a year, in which the clinical picture was one of tuberculosis of the conjunctiva, and yet he could not find a single tubercle bacillus after repeated examinations; inoculation in rabbits likewise proved negative.

3. Tubercular dacryoadenitis and conjunctivitis may undergo cure; surgical intervention is indicated only after therapeutic and proper hygienic measures fail, since it is a universally recognized fact that tuberculosis in other parts of the body is often cured outright spontaneously, the cure being effected by a

marked increase of connective tissue. Edward Stieren (Johns Hopkins Hosp. Bull., Nov., 1901).

DIAPHRAGM, ACCESS TO, FOR SURGICAL OPERATIONS.

Access to the diaphragm for surgical operations within the abdomen is especially difficult, because it is almost impossible to get the patient into such an attitude as will keep the parts exposed to work with the least interruption. However, a good solution of this difficulty, so far as attitude alone can surmount it, is obtained by placing the patient in dorsal decubitus, then bringing him to the end of the table so that his lower extremities, pelvis, and most of his lumbar spine hang over this end, the feet being supported on a cushion. Straps over the shoulders and about the thighs at the groin prevent slipping. A screen is erected on a half-circle of hoop-iron which passes from side to side just under the armpits and supports a sterile towel or sheet and shuts off all possibility of the patient coughing or vomiting into the wound. The abdomen is then opened and the position, assisted by gravity, carries most of the organs downward toward the pelvis. G. Kelling (Centralb. f. Chir., Oct. 19, 1901).

ERYSIPELAS, ICHTHYOL IN.

Ichthyol has been personally employed in the treatment of erysipelas with great success. The affected region and the adjacent area of the healthy skin are covered with a thick layer of ichthyol. It is seldom necessary to repeat the application on the third day. Usually the disease comes to a standstill, and desquamation follows inside of a week. Eschle (Heilkunde, No. 6, 1901).

ERYTHROCYTE, GRANULAR DEGENERATION OF.

In a study of the granular degeneration of the erythrocyte, the conclusions reached are:—

1. The granules are a constant finding in cases of lead poisoning, and appear very early in cases under the influence of lead salts long before subjective or other objective symptoms can be demonstrated.

2. The granules disappear in cases of chronic lead poisoning as the convalescence is established.

3. Apparently lead does not produce an immunity, as one of the cases worked for twenty-four years, another for twenty years, without having pronounced symptoms of lead poisoning, and in both of these cases the granules were present in moderate numbers.

4. The granules may be produced experimentally in dogs, appearing in a very few days after the beginning of the experiment, and increasing as the intoxication becomes severe.

5. The granules in the experimental cases are rather fine, and show a tendency to clump at first; later all varieties appear.

6. These granules are believed to be a true degeneration of the erythrocyte and having no relation to nuclear fragmentation or to polychromatophilia. C. Y. White and William Pepper (Amer. Jour. Med. Sci., Sept., 1901).

GALL-STONES, CHOLECYSTECTOMY FOR.

The points in favor of cholecystectomy for gall-stones may be given as follows:—

In properly selected cases it is an extremely simple and safe operation.

It is a curative operation, doing away

with subsequent attacks of cholecystitis, and, more remotely, of renewed stone-formation.

It eliminates the disagreeable possibilities of long-continued biliary and mucous fistulæ.

It is indicated in certain technical conditions, such as atrophic or (for drainage) inaccessible bladder, obliteration of the cystic duct, or impacted stone in the cystic duct, and in hæmorrhagic conditions of the gall-bladder.

It is a prophylactic measure against the development of carcinoma on the site of long-standing irritation.

It offers the prospect of a shorter and easier wound-healing and convalescence.

It is not to be employed indiscriminately, but has its proper limitations and contra-indications. C. L. Gibson (New York Med. Jour., Nov. 30, 1901).

GANGRENE, CARBOLIC-ACID.

In the treatment of carbolic-acid gangrene prophylaxis is most important. However, if the acid is used, it should never be applied unless the conditions for its evaporation are suitable. When gangrene has occurred, the treatment depends on the amount of tissue destroyed. Porter saved a finger by skin-grafting. Amputation has been resorted to in nineteen cases. Radical measures must be employed if progressive and spreading cases are found to occur. J. G. Sheldon (Medical Record, Nov. 16, 1901).

GONORRHOEA.

Conclusions regarding observations in the diagnosis and treatment of acute gonorrhœa, with special reference to the value of protargol as a therapeutic agent:—

1. Early and active treatment is indicated in every case of acute urethritis,

especially before the posterior urethra has become involved in the inflammatory process. The earlier the treatment is begun, the greater is the probability that the inflammation will be confined to the anterior urethra.

2. A meatus of narrow caliber strongly points to the probability of posterior involvement and a severe course of the disease. Early meatotomy may be advisable.

3. The Thompson two-glass test is liable to serious error. Its evidence should be corroborated before it is conclusively accepted.

4. The typical clinical picture presented by the patient in the acute stage is thoroughly diagnostic. The presence of the gonococci in the discharge is corroborative.

5. For posterior urethritis the irrigation treatment is both rational and effective. With proper technic and gentleness, the proceeding is attended with a minimum of pain and danger. It is not essential that potassium permanganate, the most popular medium, be employed for this purpose. Normal salt solution, weak solutions of silver nitrate and of copper sulphate, have given equally good results, especially when used alternately. The heat of the fluid and the thorough mechanical flushing of the urethral canal are probably the most effective forces in bringing about the favorable results of this method of treatment.

6. In anterior urethritis protargol in $\frac{1}{2}$ - to 1-per-cent. solution constitutes a most valuable remedy.

7. It is easily borne, not irritant nor painful.

8. It may be safely used from the very beginning of the attack, except in those few cases where the syringe itself is not tolerated.

9. The profuse purulent discharge usually disappears within seven to ten days, after which a muco-purulent or watery discharge may be milked from the urethra, and which totally disappears after two to four weeks, under an astringent injection.

10. The gonococci disappear after two to sixteen days, but are apt to reappear (as does the discharge) if the protargol solution is stopped before the end of the third week.

11. The posterior urethra is not likely to be attacked if the treatment is begun early enough and properly carried out.

12. The average duration of the anterior cases, including the obstinate cases, is six weeks, though this period is materially shortened in private practice, where the solution is employed three times daily.

13. There is little or no pain or discomfort throughout the entire course of the disease.

14. The advantages of this method of treatment over the older methods are:

- (a) Absence of pain and discomfort.
- (b) Brief duration of the profuse discharge.
- (c) Comparatively shorter duration of the disease.
- (d) Diminished danger of complications.
- (e) Early disappearance of the gonococci.

15. The disadvantages are:—

- (a) Early cessation of the discharge induces patients to suspend treatment before they are entirely cured, thus bringing about an early recurrence.
- (b) Absence of pain and discomfort minimized the importance of the disease in the eyes of the patient.
- (c) If the solution be too strong, there is a possibility of causing posterior in-

volvement, with liability to the usual complications. This is the only danger in the use of the remedy. A. L. Wolbarst (Jour. Cutaneous and Genito-Urinary Diseases, Dec., 1901).

HÆMORRHAGE, STYPTICIN IN UTERINE.

The technical name of stypticin is cotarnine hydrochlorate, but it was termed stypticin on account of its hæmostatic properties. Cotarnine is a fractionation-product by oxidation from narcotine: an alkaloid obtained from opium. The hydrochlorate (stypticin) occurs usually as a minutely crystallized yellow powder, having an intensely bitter taste. It is soluble in water, the solution becoming darker on exposure to light.

Personal clinical experience with stypticin is quite extensive and satisfactory in most instances, when employed in properly selected cases.

Not infrequently virgins without any detectable pathological changes in the pelvic organs are subject to profuse and irregular menstruation, sometimes to such an extent that they are anæmic and quite weak. When irregularity and profuseness are associated, the drug should be taken continuously for three or four months in doses of 0.05 gramme ($\frac{3}{4}$ grain) three times daily, except during menstruation, when the dose should be taken at intervals of two or three hours until the flow is diminished. The longer intervals of administration may then be resumed.

When only profuse menstruation is present, the periods being regular, the administration of stypticin should be commenced four days before the expected flow, the same dose at the same intervals being given as in the other condition.

Pelvic inflammation after full-term delivery is occasionally accompanied by bleeding from the genital tract. A few days under stypticin treatment will very likely bring about relief.

There are instances of atypical bleeding after confinement, caused by retention of the decidua or particles of retained placenta, in which, although these have been removed, the bleeding does not cease; here, too, the remedy under consideration has an excellent effect, but, of course, no benefit can be looked for until such remnants have been removed.

It is not uncommon to see women with atypical bleeding during the climacteric period for which no pathological condition can be found. Most remarkable successes have been observed from the administration of a few large doses of the drug. Should bleeding recur, stypticin should again be ordered.

When the bleeding is caused by inflammation of the uterine mucosa, either alone or associated with chronic metritis, the treatment with this—or, for that matter, any other drug taken internally—has proved unsatisfactory.

While stypticin has been found to act with benefit in some cases of endometritis, it is useless in endometritis fungosa.

Occasionally patients are seen who have irregular uterine hæmorrhage, whose cause cannot be found. In but one instance has a satisfactory result followed the use of this drug.

Atypical bleeding, sometimes associated with subinvolution of the uterus post-puerperium, yields with remarkable quickness to the use of stypticin.

In a few instances bleeding during pregnancy has been arrested by the administration of stypticin; in no case was

uterine contraction produced by its employment.

Numerous good results have been reported from the use of stypticin in the controlling of hæmorrhage caused by fibromyomatous tumors. Personal observations do not give favorable impressions with its use in these, nor in malignant neoplasms of the uterus giving rise to hæmorrhage.

If a quick action from the drug is wanted, it is best to use the remedy subcutaneously. With antiseptic precautions, 2 to 3 grains dissolved in sterile water should be injected into the buttocks and repeated after four to six hours. Two to three injections usually suffice to obtain the desired result, after which the remedy may be given by the mouth, either in capsules or in tablets. H. J. Boldt (Merck's Archives, Nov., 1901).

HEART, STAB-WOUNDS OF.

A review of cases of stab-wounds of the heart justifies the following conclusions:—

1. The time has arrived when a wound of the heart should be operated on with as little hesitation as a wound of the brain, with the expectation under corresponding conditions of getting equally good results. The mortality must inevitably be high,—not from the operation, but from the injury,—especially if all cases, including desperate ones, be undertaken. Selection of cases who have survived five or more hours after receiving the wound would give a good percentage of recoveries, but such selection is not to be recommended.

2. In all cases of wounds in the region of the heart, with symptoms threatening life, an exploratory operation should be done by making an osteoplastic flap by dividing the fourth and fifth

costal cartilages at their attachments to the sternum and the ribs about one inch external to their attachment to the cartilage, somewhat according to the method of Roberts. This flap turned up as a door on a hinge gives a good view of the pericardium, and can easily be enlarged upward if more room is required.

3. While early and speedy operation is often essential to success, yet the importance of asepsis cannot be too strongly emphasized on account of the great danger of pericarditis and empyema. If there has been much hæmorrhage, a quantity of physiological salt solution, approximately equal in amount to the blood lost, should be injected into a vein while the surgeon is operating on the heart, if it has not been done sooner. George Tully Vaughan (*Medical News*, Dec. 7, 1901).

HICCOUGH.

For the treatment of this often distressing and dangerous affection, a metal electrode having a surface-area of sixteen to twenty square inches is to be applied over the diaphragm; the spark-gap is gradually opened four to eight inches, and it is surprising how promptly the spasms are interrupted. The administrations should be continued from thirty minutes to one hour; the treatment repeated daily, or oftener, if the paroxysms recur. W. B. Snow (*Jour. of Electrotherapeutics*, Dec., 1901).

HYSTERECTOMIES, A COMPARATIVE STUDY OF.

A review of various facts brought out in personal study leads to the conclusions that:—

1. While the finished result of a supravaginal hysterectomy is most satisfactory, the operation is, however,

marred by the possibility of a secondary infection, at times terminating fatally. When this infection does occur, it can be reached only by some secondary operation.

2. The chances of this infection occurring are greater when the subperitoneal space is drained through the canal of the cervical stump, or when the canal is left open. There is every reason to close the stump as offering the best results.

3. Total abdominal hysterectomy, though not such a finished operation as the supravaginal, is, however, one in which there is less likelihood of any secondary complications, and though objectionable on account of the suppurating cavity to be closed by contraction and granulation, yet offers to the patient a surer means of uninterrupted recovery. These conclusions, while at variance with Olshausen's large collection of cases, in which he gives a 5.6-per-cent. death-rate for supravaginal, and a 9.6 per cent. for total, hysterectomies, are, however, the only ones to be drawn from the collection brought together. Le Roy Broun (*New York Med. Times*, Dec., 1901).

INTESTINE, PARESIS OF, PHYSOSTIGMINE IN.

Physostigmine in doses of from $\frac{1}{120}$ to $\frac{1}{80}$ grain for tympanites in different intestinal disorders has given excellent results. The drug is given by mouth three times daily. Von Noorden (*Berliner klin. Wochenschrift*, Oct. 21, 1901).

IODIDES, ACTION OF, ON THE HEART.

Sodium or potassium iodide when given to man by the stomach in ordinary doses has no depressing effect on the action of the heart or on the blood-

pressure in the arteries. Ralph Stockman and F. J. Charteris (*Brit. Med. Jour.*, Nov. 23, 1901).

KIDNEY, MOVABLE.

The conclusions as to the treatment of movable and floating kidney by nephropexy are the following. They may be prefaced, however, by saying that belts and bandages have no efficacy in nephroptosis uncomplicated with enteroptosis, and when employed in cases of movable kidney they increase pain and may otherwise do harm if not carefully and properly applied.

1. When movable kidney is associated with enteroptosis, no operation should be performed on the kidney unless it is evident that the more serious symptoms are due to the mobile kidney alone, and not until after the trial of a well-fitting abdominal support and the careful dietetic and medicinal treatment of the gastric and intestinal disorders. Should these means fail and the kidney evidently be most at fault, nephropexy, followed by the wearing of an abdominal belt, should be tried.

2. When a movable kidney is complicated by a movable liver, or when both kidneys move, the same rule should be followed as in general enteroptosis; in the case of both kidneys moving (when both organs have been giving trouble), they should be fixed one after the other at an interval of a week, so that convalescence from both operations may be taking place simultaneously.

3. When the movable kidney occurs in a hysterical or neurasthenic patient, all palliative means should be tried before resorting to an operation, and the patient's friends should be informed of the uncertainty of the result from operation. The statistics show that a cure

may be hoped for by nephropexy in about half of these cases.

4. For uncomplicated movable or floating kidney, in which the principal symptoms are pain and gastro-intestinal troubles, the operation may be confidently advised and carried out without any previous trial of belts or of rest.

5. When renal crises are a feature of the case, nephropexy ought to be strongly urged because of the impossibility of keeping the kidney in its proper place by a belt, and because of the constant risk of hydronephrosis and recutting pain, even if the renal crises can be kept under control.

6. When a movable kidney gives rise to no inconvenience, an operation ought not to be thought of, and a belt need not be worn. Henry Morris (*Lancet*, Nov. 30, 1901).

KOUMISS.

Koumiss is a highly-effervescent, slightly-acidulated form of milk produced by a certain process of fermentation. It contains the casein, which is the most nutritious portion of the milk in the unfermented condition. The composition of koumiss is always changing, the process being as follows: The lactose being partially changed into lactic acid, carbonic acid, and alcohol, the albuminoids are peptonized to a certain degree, and the other constituents of the milk exist in such a finely-divided state that the digestive fluid can act upon them easily. In the first stage of koumiss it is found to be somewhat sweet and mildly effervescent, but in the course of a few days it becomes decidedly acid and highly effervescent.

Practitioners frequently make the mistake of administering koumiss chilled. It should always be adminis-

tered with the chill taken off, and it will then be found very digestible. In fact, as a working rule, it is well to remember that, the nearer the temperature of the koumiss approaches that of the blood, the quicker and easier it will be absorbed. Again, the quantity should never exceed what the patient can easily digest. There has been introduced the preparation koumissgen, which is highly recommended by some authorities. It is prepared from skim-milk dried and powdered, and is alleged by its opponents to be deprived of its most important nutrient properties. Those who advocate its use, however, point to the practical result that it does good. H. C. Patterson (New York Med. Times, Dec., 1901).

LARYNGEAL TUBERCULOSIS AND PREGNANCY.

From the outlines of personal experience, the following conclusions may be submitted:—

With women of whom the prognosis is hopeless, one should treat laryngeal tuberculosis only in the usual local manner, and, if necessary, perform tracheotomy.

With women of whom the general prognosis is favorable, one should wait, so long as the laryngeal tuberculosis is quite slight (little erosion, a circumscribed ulcer). So soon as infiltration takes place, or the disease tends to become diffuse, one should inform the patient of the danger of her condition; and, after her consent is obtained, undertake tracheotomy as soon as possible, and, should this not work favorably in a few days, bring about artificial abortion.

The earlier the pregnancy is interrupted, the more favorable are the chances for the mother, because the

strain of labor is less the smaller the fœtus is, and also the loss of blood which occurs in artificial abortion is proportionately small. From the seventh month of pregnancy the prospect for the mother becomes worse, because great exhaustion usually follows the strain of delivery.

It is advisable, with advanced laryngeal tuberculosis, to undertake tracheotomy before delivery, or, at least, to hold one's self in readiness for its performance, in order to obviate the risk of sudden suffocation during delivery. Arthur Küttner (Jour. of Laryn., etc., Nov., 1901).

LEUCORRHOEA AND GONORRHOEAL VAGINITIS, YEAST-TREATMENT OF.

Yeast in the treatment of chronic leucorrhœa, and vaginitis due to gonorrhœal infection, has recently been tried with considerable success.

In leucorrhœa and gonorrhœal vaginitis there occurs a substitution of a morbid fermentation by a non-dangerous yeast-fermentation, for the yeast-cells (*saccharomyces cerevisiæ*) appear to devour the morbid germs which set up inflammatory conditions.

Backer, who has made a study of the various ferments, is of the opinion that the natural toxins, however altered, may, in the treatment of disease, be replaced with advantage by ferments in the living state. He considers good health to be one of normal fermentation.

Hence, pure ferments like yeast attract pathogenic germs, allow themselves to be penetrated by them, and, once enveloped, destroy them by a true phagocytosis. D'Arsonval and Charrin have also made a series of investigations on the reciprocal action of microbes on

vegetable cellular tissues, and it would appear that in the case of yeast, in its struggle with pathogenic germs, it expends its energy as a ferment, acting consequently by reason of its phagocytic properties.

We see, therefore, why the treatment of leucorrhœa and other vaginal discharges with yeast is based on reasonable grounds, and it should, therefore, be tried in obstinate cases which do not yield to tonics and the usual local treatment.

The application of yeast in this connection is not convenient, owing to its keeping badly, its offensive smell, and the difficulty of obtaining fresh supplies, as well as its inconvenient frothy nature. This, however, can be overcome by using the pure desiccated form, known as cerevisine, which may be exhibited in the form of a pessary of cocoa-butter filled with cerevisine, and placed in position on going to bed, or a paste made up with glycerite of starch, and retained with a tampon of absorbent cotton, or again applied by dipping absorbent cotton in a thin paste of cerevisine and water. The quantity for application is not important, as it is perfectly harmless, but from 1 to 2 teaspoonfuls can usually be introduced and retained in the vagina during the night, which will give more cleanly and comfortable results than injections of brewers' yeast during the day. Ph. Chapelle (*Therapeutic Monthly*, Nov., 1901).

LYMPH, THE ORIGIN OF, IN THE PERIPHERAL LYMPHATIC CIRCULATION.

From observations on the peripheral lymphatic circulation in large animals during rest, muscular activity, physiological activity of all the tissues during

secretion, under the influence of variations of blood-pressure, both local (from vasodilatation and vasoconstriction) and general (from intravascular injections and blood-letting), likewise from the effects of the injection of toxins (hypertensive and hypotensive), and also from the effects of ergotine, the following conclusions have been personally reached:—

1. That the lymph in the peripheral lymphatic districts is not a simple product of transudation from blood-plasma under the influence of blood-pressure.

2. That this transudation is at all times feeble.

3. That the lymph is, above all, a product of the elaboration of the tissues, and represents blood-plasma robbed largely of its nutritive constituents.

4. That its formation is in direct correspondence with the vital activity of the tissues.

5. That the peripheral lymphatic apparatus is in a certain sense an excretory apparatus. G. Moussu (*Brit. Med. Jour.*, Nov. 23, 1901).

MALARIA, MOTTLED CELLS IN.

In malaria the blood-cells occupied by the parasite, when stained by Romanovsky's method, as modified by Ruge, remain colorless, but exhibit a mottling with numerous red spots upon their surfaces. The red spots are always of the same color, they are of the same size, and evenly distributed on the cell. They become larger as the organism becomes older. In red cells infected with adult parasites there may be seen certain spots of a violet or reddish-violet color, irregular in shape, and ill defined in contour, of varying size, from that of a small granule to half the size of the

nucleus of the parasite. W. Stephansky (Roussky Archiv Patol., etc., June, 1901).

MALARIAL FEVER, QUININE IN.

Quinine should be administered only when required, and then given in sufficient doses to destroy the parasites in the blood. The incubative period of malaria is certainly not less than five days; therefore a person visiting a malarious district should take from 7 to 15 grains of quinine at bed-time on the fourth day, and he should repeat this every fourth or fifth day during his stay in the place or until cold weather puts a stop to the liability to infection; he should also sleep under a mosquito-bar and stay in-doors after sundown.

Small daily doses of quinine—1 to 2 grains—simply habituate the parasites to the presence of the drug in the blood, and they continue their evolution in its presence. Quinine should be preceded by a purgative. Then an acid solution of quinine is to be used.

Quinine, when combined with camphor and capsicum, will cause the disappearance of the malarial parasite from the blood more quickly than quinine alone.

In the continued or remittent æstivo-autumnal fevers the patient is personally put on the following prescription. It must be compounded exactly as written, and *not filtered*. When properly made, it looks like buttermilk, and must be shaken each time before using:—

R Magnesium sulphate, $\frac{1}{2}$ ounce.
Solution of ammonium acetate, 1 ounce.
Quinine sulphate, 4 grains.
Camphor-water, enough to make 11 ounces.

M. Sig.: Two tablespoonfuls every four hours, fever or no fever.

This prescription is good in any form of acute malarial disease, but is preferred in cases in which the fever is continued or in which the patient cannot take full doses of quinine, on account of head-symptoms. It produces a gentle perspiration, keeps the bowels open, reduces the fever, and nearly always effects a cure. W. P. McIntosh (New York Med. Jour., Nov. 30, 1901).

MILK, TOP.

The best way to obtain a fairly constant cream is to allow milk to stand for about six hours in a cool place. The creamy layer, known as gravity cream in the trade, contains nine-tenths of the butter-fat in the milk. If the first 9 ounces of this are used, it may be considered to contain cream in the proportion of 3 to 1 to the amount of milk. If the first 15 ounces are used, the proportion is about 2 to 1. For the obtaining of this upper layer, the dipper personally suggested some time ago is cheap, clean, and easy of employment. Above all things, to be successful the feeding of infants must be simple. If there is any dirt in milk, it is well known that it sinks to the bottom, and can often be seen in bluish-black particles through the glass of the bottle. By the use of Dr. Coit's siphon this dirt is not apt to be removed, or at least not removed entirely, because the upward flow through the siphon is gentle, and does not disturb the lower layer of milk very much. The dirt remains to contaminate the upper layer of milk, which is left in the bottle after siphoning to be used for feeding purposes. Chapin (Medical News, Nov. 30, 1901).

MYCOSIS OF THE TONSIL AND BASE OF THE TONGUE.

No case of mycosis occurring in the male has been personally seen. The

habit of smoking in the male may be the means of preventing this plant from involving the mucous membrane.

In one case of mycosis where the growth was marked, the throat was treated in succession by the application of chromic acid, carbolic acid, nitric acid, and sulphuric acid. These acids seemed to irritate the growth and produced an extension. The parts were then treated by boric acid, nitrate of silver, and various other applications; but these seemed to act as fertilizers, and the growth sprang up more vigorously.

Then the patient smoked a cigar or a pipe of tobacco as often as circumstances permitted. The tobacco had the effect of retarding the growth of the plant, and greatly diminished the growth on the palate. Then evulsion was begun with a forceps, each root being picked out. The parts were then cauterized by a bent probe with chromic acid. The membrane was carefully sprayed with an alkaline solution to limit the action of the acid.

This treatment had a marked effect in diminishing the growth of the plant, but was not entirely satisfactory. She was now given

R Tinct. ferri perchloridi, 3 drachms.
Glycerini, 2 ounces.
Aqua, q. s. ad 3 ounces.

M. One drachm every three hours, without water, to be used as a gargle and then swallowed.

This solution had more effect upon the remaining growth than any preparation previously used.

It is not believed that this solution would have any effect at the start, but it was very effective, when used in conjunction with tobacco and the chromic-acid applications, after the growth had

been torn out by the forceps. E. Harrison Griffin (New York Med. Jour., Dec. 14, 1901).

MYOPIA.

The future of many myopic eyes depends on the way in which they are used. Prolonged and habitual close work does harm. The effect is seen in overworked school-children, clerks, school-mistresses, literary men, seamstresses, jewelers, type-setters, and others. It is seen not only in the greater prevalence of complications among such persons, but in individual cases. Excessive close work in early life is often accompanied by rapid increase of refraction; in later life it often aggravates the graver complications. Patients who must, or will, continue such work in excess, especially those whose working distance is already too short and who decline to lengthen it by the aid of glasses, are encouraging their myopia to run a pernicious course. The amount of risk must be estimated from the grade of myopia, the age of the patient, and the amount of choroidal change already present. To give a bad prognosis, by way of warning, is sometimes the best or only way to prevent its fulfillment. Priestley Smith (Ophthalmic Review, Dec., 1901).

MYOSITIS FIBROSA.

During the early period of the disease rest of the affected muscles should be insisted upon, while during the later stages the presence or absence of pain on motion must govern one in his decision as to whether or not the use of the limbs should be interdicted. Operative intervention might be said to be indicated only in those cases in which the mass is causing sufficient pressure upon the adjacent nerve-trunks to ac-

count for sensory or motor disturbances. Internal medication is practically of no avail in the treatment of this affection; mercury, the iodides, and numerous other drugs have been employed without exhibiting any beneficial effect. The treatment yielding the best results is purely local. Massage and electricity, together with the use of variously medicated baths, seem to promote the absorption of a part, at least, of the fibrous tissue. Montgomery H. Biggs (University of Penna. Med. Bull., Dec., 1901).

NEPHRITIS, SCARLATINAL.

As the danger of nephritis is greater during the stage of desquamation, the patient ought to be kept under medical observation for at least three or four weeks. The urine must be examined daily or at least every other day during this period. The routine treatment consists in rest, fluid diet (milk diluted with lime-water, oatmeal-water, etc.; broths and clear soups). Water in small quantities at regular intervals, with or without salines, should be given. The temperature of the room should be about 72° F. when possible. Flannels should be worn; in mild cases the above will be sufficient with the addition of fractional doses of calomel four times daily.

If severe headache, nausea, and vomiting be present, small doses of calomel may be given hourly. Liquid must be given in 1-drachm doses every five to fifteen minutes until the stomach can take more. Coma or convulsions require energetic treatment, as hot packs, high saline injections, brisk purging, oxygen, caffeine subcutaneously, and the like. Even in coma and when convulsions have ceased, 1-drachm doses of water should be given at frequent intervals. The other uræmic manifestations

yield readily to methods described above.

As long as albumin appears in the urine, the patient ought to be kept in bed, or, if intractable, at least be confined to the house, in an even temperature, avoiding exposure or a display of too great muscular activity.

The anæmia must be combated by means of light nutrition, food, and iron internally. The functions of the bowels may be regulated by the use of salines or calomel.

The myocardial weakness is to be treated by rest and strychnine in appropriate doses.

Plenty of water, a moderate amount of lemonade or carbo-water may be given. F. Huber (Pediatrics, Dec. 15, 1901).

NOSE, BACTERIA IN THE.

In a study of the bacteria in the nose the positive findings overwhelm the negative results; the weight of evidence is strongly to the effect that the normal nasal mucus contains bacteria. However, the flora of the nose cannot be as abundant as one would suppose from the number of bacteria inspired.

The practical conclusions to be drawn are:—

1. It is advisable to sterilize the vestibule of the nose before operating.
2. After operation the nostril on the operated side should be closed with a piece of cotton to act as a filter.
3. Plugging of the nasal cavity after operation is, as a rule, inadvisable, as it tends to retain the nasal secretions.
4. Nasal wounds do not heal by first intention, owing to the presence of bacteria. This also explains the occurrence of secondary hæmorrhage.

Fever after operations and the few deaths recorded have probably been due

to the presence of pathogenic micro-organisms in the nose. Samuel Iglauer (*Laryngoscope*, Nov., 1901).

OBTURATOR HERNIA OF THE BLADDER AND OF THE FALLOPIAN TUBE.

The following is a description of two rare forms of hernia found in a female subject, aged 78 years, in the Practical Anatomy Rooms of the Middlesex Hospital Medical School. The cause of death was certified as "morbus cordis."

by a fibrous band with the connective-tissue septa of the lobulated fatty mass which covered it. This mass of fat, which was continuous through the obturator canal with the adjacent extraperitoneal layer of fatty areolar tissue, lay immediately below the obturator crest, and was flattened out between the obturator externus muscle and the obturator membrane; it measured 2.5 centimeters in length and 1.5 centimeters in its greatest vertical diameter. The obturator nerve and

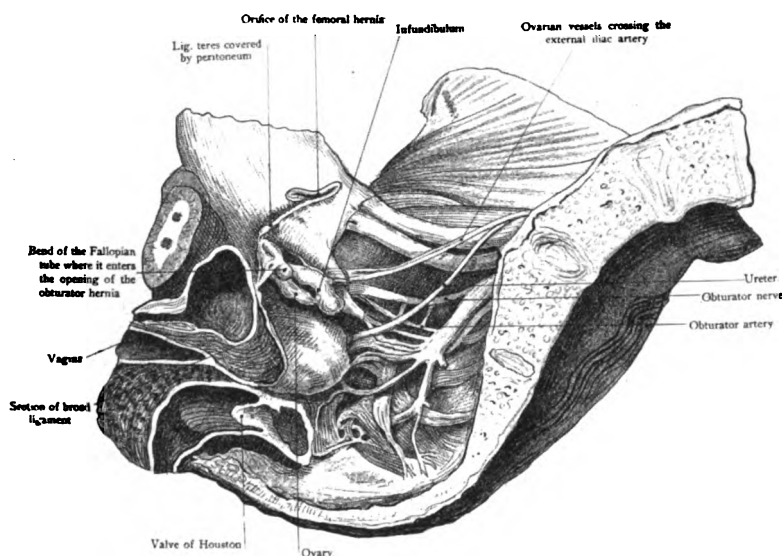


Fig. 1.

On the right side a U-shaped bend of the Fallopian tube (Fig. 1), with a portion of the mesosalpinx, was found lying within a small peritoneal sac. This sac had escaped from the pelvis through the obturator canal, and lay imbedded in a mass of fat beneath the obturator externus muscle; it resembled in shape the end of a small test-tube, and measured 1.5 centimeters in length and rather less than 1 centimeter in width. Its extremity was connected externally

vessels at the entrance of the obturator canal were to the outer side of the sac; at the crural end the two branches of the nerve lay to the outer side, while the bifurcation of the obturator artery was situated below the hernia.

On examining the parts from the pelvic aspect (Fig. 1), the middle portion of the right Fallopian tube, with its adjacent mesosalpinx, was found lying within the sac. The length of the right Fallopian tube was nearly double that

of the left. The attached border of the right ovary, midway between the uterine and ovarian poles, lay close to the orifice of the hernial sac, but the ovary was not actually engaged within it. On this side of the pelvis there was also a small femoral hernia, consisting of a sac 3 centimeters in length, containing a knuckle of small intestine. It did not extend beyond the crural canal, and the intestine was easily reducible.

rator externus muscle, and was divided superficially into two almost equal parts by a fibrous band, extending from the surface of bone just below the pubic spine to the anterior margin of the cotyloid notch and the transverse ligament. A second flat band extended from the inner margin of the obturator foramen to the cotyloid notch externally, where it was attached to the transverse ligament just below the former; this band

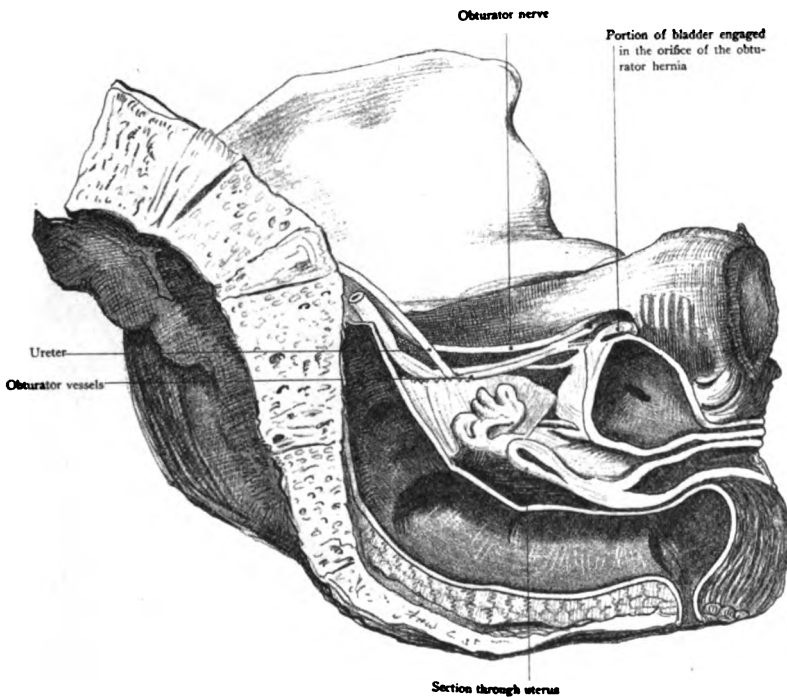


Fig. 2.

On the left side of the pelvis (Fig. 2) a corner of the bladder-wall, situated anterior to the line of reflection of the peritoneum, was found to be firmly fixed in the commencement of the obturator canal; beyond this, and appearing outside the pelvis, was a pellet of fat having about the same form and size and occupying the same position as that on the right side. It lay beneath the obtu-

lay below the hernia, and bridged across the branches of the obturator artery. This structure seldom exists as a continuous sheet. It is sufficiently strong to give rise to strangulation of an intestinal obturator hernia, and from its position it is extremely liable to do so.

The vessels on this side entered the obturator canal to the outer side of the herniated bladder, while the bifurcation

of the artery at the crural end of the canal lay below and behind the hernia. The obturator nerve entered the canal above and to the outer side of the bladder; it bifurcated within the canal, and its two divisions passed out into the thigh above the fatty portion of the hernia. A few muscular fibers which were connected with the outer surface of the bladder were prolonged outward as a fibrous band, which lay imbedded in the upper part of the fatty mass. This band was continuous with the connective tissue of the investing fat.

On making a mesial sagittal section through the pelvis, and thus opening the bladder, the hernia appeared from the inside as an elongated conical recess in the mucous membrane, the cavity of which turned upward and forward to the entrance of the obturator canal.

The bladder was of normal size. The viscus, however, along with the uterus, was considerably displaced to the left, and the latter was much atrophied.

On examining the interior of the rectum there were seen two valves of Houston in the lower part of the rectum, and a third much higher at the level of the second sacral vertebra. The middle valve (Fig. 1) was considerably thickened; it was attached to nearly the whole circumference of the gut, so that the passage here, which was behind and to the left, was extremely narrow. R. J. Gladstone (*Annals of Surgery*, Dec., 1901).

ORAL PROPHYLAXIS.

There is a wide distinction between the ordinary methods of "cleaning the teeth" and the following system of prophylactic treatment.

When necessary, scalers should be used for the removal of solid deposits and such mucous concretions as may

have been the means of softening or causing a partial decalcification of cervical enamel; and this should be perfectly attained. Following this, the teeth should be thoroughly polished on all exposed surfaces: the labial, buccal, palatal, lingual, mesial, distal, and, in cases of developing teeth, the occlusal as well. The hand-polishing with stick and pumice should reach to every exposed portion of the tooth, and be continued until the touch, which can be educated in this manner to distinguish better than the eye, gives evidence of thorough cleansing and polishing. The operation is best done with properly-shaped orange-wood sticks charged with powdered pumice-stone.

The grit of not too finely powdered pumice-stone has been found best adapted for removing viscid mucoid accumulations and for polishing enamel surfaces; and, what is even more important, the friction of the stick and pumice as applied by hand—for power-polishers should never be used—seems to excite or stimulate the vital forces of the tooth to increased activity in the removal of waste and the deposit of new and better material. The effect has been likened to massage treatment for muscular tissue.

The benefits resulting from this treatment are most marked, and extend to all parts of the tooth.

While the deciduous and young permanent teeth are most responsive, all classes of teeth, and teeth of all ages, are peculiarly and positively benefited, as is plainly shown in them after a few months of regular and careful treatment.

The benefits are not to enamel or treated surfaces alone, but results are equally pronounced in pericementum, gums, the alveolar structure, and ap-

parently in the dentine and cementum. There are striking exhibitions of change and improvement of color in the enamel, while it is apparently taking on from month to month a firmer texture and a more compact resisting structure. The change in color is from an opaque, old-ivory appearance to that of clear, translucent, polished enamel, the whole giving the appearance of increased density and general improvement. D. D. Smith (International Dental Jour., Dec., 1901).

OXYGEN-GAS IN DISEASES OF THE LUNGS.

Michaelis regards intoxications (poisonous gases, during intoxications, chloroform narcosis, alcohol intoxications, etc.), as a chief primary indication, and dyspnoea as a next chief indication for the employment of oxygen inhalations. In pneumonia and pleuritis the compression of the lung may prevent absorption of oxygen, and relief may not be correspondingly as great as in dyspnoea of bronchitis, asthma, or emphysema.

In pneumonia oxygen should be used for the relief of dyspnoea, cyanosis, and as a stimulant to a rapid, weak, and failing heart.

The administration of from 1 to 4 liters at a time twice or thrice daily, either pure or diluted with from 1 to 4 volumes of air, is recommended. In the most urgent cases the more or less continuous administration of the gas is advisable. These questions are to be decided entirely by the necessities of the individual case. It is always best to allow of some dilution of the gas except where asphyxia is imminent. In some cases of lobar pneumonia, when the breathing-space is limited and cyanosis is present, the gas should be given more

or less continuously, and should not be much diluted. In broncho-pneumonia and in influenza-pneumonia the gas should be administered for ten minutes every half-hour, or for fifteen minutes every hour, and should not be strong enough to cause flushing of the capillary vessels. When cyanosis is present and the pulse lacks volume, the gas should be given until the lips redden and the pulse improves.

In bronchial and spasmodic asthma, capillary bronchitis, and in emphysema the better diffusion of air in the lungs produced by oxygen inhalations is alone sufficient to explain its good effects. In cardiac dyspnoea, cardiac asthma, and in the spasmodic attacks of dyspnoea from vasoconstriction in cardiorenal disease, and in aneurismal dyspnoea oxygen is of marked, though temporary, benefit. In the dyspnoea incident to the hypostolic period of advanced cardiopathies, oxygen may give considerable relief, particularly when reinforced by the administration of more powerful and lasting vasodilators. Its administration here is governed entirely by the amount of relief afforded to the subjective sensation of want of air, and can be regulated principally by the desires of the patient.

In severe cases of bronchiolitis in children oxygen will sometimes afford considerable relief. It should be freely diluted. In the advanced stages of chronic bronchitis in aged persons much relief to the dyspnoea, which is sometimes distressing, can be obtained by the use of oxygen-gas.

If oxygen is used with due appreciation of the temporary nature of its effects, as a relief to distressing symptoms, or as an aid in rounding a critical period, one will come to regard it as a present aid, and not as a measure to be

introduced simply for the sake of appearance and to avert criticism. J. M. Patton (Clinical Review, Nov., 1901).

PERICARDIUM, ADHERENT.

Diagnosis is difficult, if not impossible, when the sac is adherent to the heart, but not to the neighboring structures. The signs then relied upon are inspiratory distension instead of the normal inspiratory collapse of the external jugulars or other superficial veins; diastolic collapse of the cervical veins, known as Friedreich's sign; pulsus paradoxus, a by-no-means constant nor reliable sign; and the detection of cardiac hypertrophy for which no adequate cause can be discovered. When the pericardium is adherent to the chest-wall or diaphragm, other signs are often developed that render diagnosis easy and certain. These are a systolic retraction of one or more interspaces in close proximity to the apex-beat or of the epigastrium; fixation of the apex so that its gravitation from side to side with the turning of the patient's body or its descent during inspiration is prevented or much restricted; a systolic retraction followed by a diastolic rebound of the chest-wall that by some authors is considered pathognomonic; a systolic sinking or drawing inward of the tenth and eleventh intercostal spaces below the inferior angle of the left scapula and occasionally of the right, known as Broadbent's sign. In some instances auscultation detects friction-sounds of a fine crackling or creaking character along the sides or apex of the sac, which sounds are synchronous with cardiac contractions and are sometimes elicited only during inspiration. A fine, creaking sound is heard in some cases at the base of the heart upon the body of the sternum while the

patient slowly raises and lowers the arms. Finally, in some cases in which positive signs cannot be obtained the diagnosis of this condition is rendered possible by a process of exclusion, together with the history of a previous rheumatic attack and the discovery of an hepatic enlargement for which no other predisposing cause can be ascertained. R. H. Babcock (Medical News, Dec. 14, 1901).

PNEUMONIA.

There is great confusion as to the significance of pneumonia of the apex. By some it is regarded as a localization of great fatality, and by others its mortality is said to be slight. The general mortality of apex and basal pneumonia is the same. The mortality of uncomplicated apical disease in the child is almost *nil*. Phthisis is rare in connection with acute lobar pneumonia, and when it involves the apex it shows no particular tendency to eventuate in tuberculosis. Involvement of the apex in adults may sometimes be accompanied by a mild course of the disease. E. F. Cordell (Maryland Med. Jour., Oct., 1901).

In all cases of broncho-pneumonia rest is important. The light in the room should be mild and the surroundings as quiet as possible. Temperature of the room should be between 68° and 72° F., and the air kept moderately moist. Fresh air is important. By proper precautions, all danger of draught can be avoided. The patient should be allowed to have as much water as desired. Lemonade-water or a little dilute hydrochloric acid and water is often extremely grateful.

One is to see that all excretory functions are being properly performed. To allow free action of the diaphragm, the

condition of the intestinal tract is to be carefully noted. If flatulency or constipation exists, calomel will be of service. Counter-irritation as a mode of treatment is subject to a great difference of opinion. Personally, mustard plasters have been used, followed by a good covering of cotton, and it is considered a valuable part of the treatment. Poultices are not cared for, owing to their weight.

For high degrees of temperature, one of the best antipyretics is cold water. If the circulation is poor, with cold feet and irregular heart, a hot foot-bath is good. If the bath is not used, one should apply warm packs to the limbs and cold to the trunk and head.

Drugs are to be used sparingly in early days of the disease. Aconite, if anything, may be used early in small and frequent doses, but its use should not be persisted in too long.

Expectorant mixtures, especially if of a depressing character, should be avoided or used very sparingly, if at all. J. Park West advises codeine for pain and cough.

It is important to watch the heart carefully, and, upon the least indication of effort to keep up proper circulation, start in with stimulants. Alcohol is of value in later stages of the disease, $\frac{1}{2}$ ounce to 3 ounces in twenty-four hours, of whisky or brandy, well diluted. Strychnine is of great value, and digitalis and strophanthus according to indications.

In persistent cases good tonic treatment is indicated, and sometimes potassium iodide will prove of benefit, as will also codliver-oil. A. E. Shipley (Brooklyn Med. Jour., Oct., 1901).

Carbonate of creosote approved of in pneumonia. It may be given in doses of 8 or 10 grains, five or six times per

day, and usually when a drachm or more has been taken the temperature will rapidly fall to normal and the alarming symptoms will disappear. If the drug is then discontinued the temperature again rises, subsiding, however, if the creosote is once more resumed. L. Weber (Medical Record, Nov. 2, 1901).

Cardiac depressants should be used in the treatment of the congestive stage of pneumonia. *Veratrum viride* is as efficient as it is safe. The tincture should be administered in oft-repeated doses until the physiological effect is noticed, namely: some nausea, relaxation of the skin, and a reduction of the pulse-rate and temperature. Its administration should not stop as soon as the exudate is formed, but its use should be continued so long as the pulse is angry and the blood-pressure too high. The administration of this drug lessens the amount of exudate and seems to cut short the attack. W. L. Dickerson (Jour. Amer. Med. Assoc., Nov. 9, 1901).

Venesection should be oftener employed in lobar pneumonia. Seriously embarrassed circulation is the indication for venesection. In a large series of cases ice-bags were applied to the chest with benefit. Turpentine stupes and sinapisms, and later a cotton jacket with camphorated oil, are personally used. For sleeplessness as well as for painful cough Dover's powder with hot whisky is used with good results; an opiate is preferred to more depressing hypnotics. In complicating pleurisy a hypodermic injection of morphine is of value. The free use of strychnine is recommended in cardiac distress; it may be given hypodermically if circulatory depression is marked. In cases of hard, bounding pulse with flushed face liquor ammoniæ acetatis or the sweet spirit of niter gave as much satisfaction as either aconite or

veratrum. J. N. Hall (Phila. Med. Jour., Nov. 9, 1901).

A series of 168 cases of pneumonia treated with 17 deaths. The following are the conclusions from a study of these cases: 1. The sustaining of the metabolic process of the individual by the administration of easily-digested or pre-digested foods in small quantities at stated intervals, the administration of large amounts of pure water for eliminative purposes, and the administration of oxygen-gas by inhalation whenever the absorbing surface of the pulmonary mucosa is involved to such extent as to interfere with proper metabolic oxygenation. 2. Elimination (a) by the liver and bowel through the vigorous use of calomel and salts; (b) by the skin through sweats by external heat; (c) through withdrawal of blood when indicated by right-heart distension. 3. Stimulation of heart by strychnine, alcohol, or ammonium carbonate, and in suitable cases by subcutaneous injection of normal salt solution. 4. The local treatment of the lung by leeching, wet cupping, or dry cupping, as indicated. De L. Rochester and C. G. Stockton (Jour. Amer. Med. Assoc., Nov. 9, 1901).

Antipneumococcic serum used in 12 cases of pneumonia. Eight patients were over 30 years old; of the other 4 cases, 1 was excessively alcoholic and 2 confessed to its moderate use. Of the 8 cases, 3 used alcohol to excess, 2 others had mitral regurgitation, nephritis, and 1 arteriosclerosis. Albumin was found in the urine of 10. There were 9 recoveries from this series. The only conclusion that can be drawn is the negative one that the course of the disease is not lengthened by the use of serum. It is no specific against the pain resulting from the inflamed pleura. Skin eruptions, together with pain and

swelling in the joints, were occasionally produced. G. G. Sears (Boston Med. and Surg. Jour., Dec. 12, 1901).

QUININE RASHES.

In the diagnosis two points are of especial interest: the involvement of mucous membranes and desquamation. In 14 of 61 cases reported there was desquamation, and in 11 of the 14 the mucous membranes were involved. These facts bring scarlet fever into the question of diagnosis. The most potent cause is idiosyncrasy; age, sex, size of dose, etc., have little bearing on the production. Treatment is symptomatic. When the idiosyncrasy is known, the drug should be given hypodermically. H. C. Wood, Jr. (Medical News, Nov. 23, 1901).

The differential diagnosis between scarlet fever and quinine rash should be based on (1) the history of exposure to scarlet fever; (2) the greater intensity of constitutional disturbance in scarlet fever; (3) the desquamation in quinine rash is not so persistent; (4) there is not that peculiar desquamation of the fingers, especially around the nails, in quinine rash; (5) there are not the enlarged tonsils covered by a yellowish exudate, as in scarlet fever; (6) there is not apt to be the strawberry tongue in quinine rashes. J. F. Schamberg (Medical News, Nov. 23, 1901).

RECTOCOLITIS.

The symptoms of rectocolitis are (1) local or physical and (2) constitutional or rational. In acute dysentery or "bloody flux" large quantities of jelly-like mucus, with blood, appear in the stool, accompanied by severe straining and tenesmus. Chronic hypertrophic catarrh produces shreddy casts of long or short pieces that are sometimes

tinged with blood, stools irregular, etc. Inspection reveals thick and rigid valves; their margin at times denuded of its epithelium, red, and inflamed; and the touch of an instrument evokes severe pain in the back according to the nerve-center disturbed. For the same reason the symptoms of rectocolitis are referable to the uterus, mouth of the urethra, ovaries, and stomach. Constitutional symptoms occur through the absorption of ptomaines from retained feces and gas, which results in severe and constant headaches, especially post-cranial and cervical; nausea, anorexia, fermentations, pains in back, and vague pelvic and abdominal discomfort; the patient tires easily and is greatly depressed; the extremities are cold; the pulse is weak, indicating great nervous exhaustion. However, their physical appearance is that of good health; hence they derive little sympathy from their friends. W. M. Beach (Medical News, Dec. 14, 1901).

RHEUMATISM, CASES SIMULATING.

A series of cases with painful symptoms usually located in the neighborhood of joints, which had been diagnosed either by the patients themselves or by their physicians as rheumatism, have occurred at the New York Polyclinic in the service of Professor Katzenbach. When the patient was not able to give a straight history of acute rheumatism,—that is, red swollen joints, fever, and sweating,—the case was at once assumed to be not rheumatic in character. It has seldom been necessary to retract this assumption, during the subsequent treatment of the case. Some 40 patients were under treatment, and of these 15 that presented so-called rheumatic symptoms of the lower limbs were found to be suffering from flat-

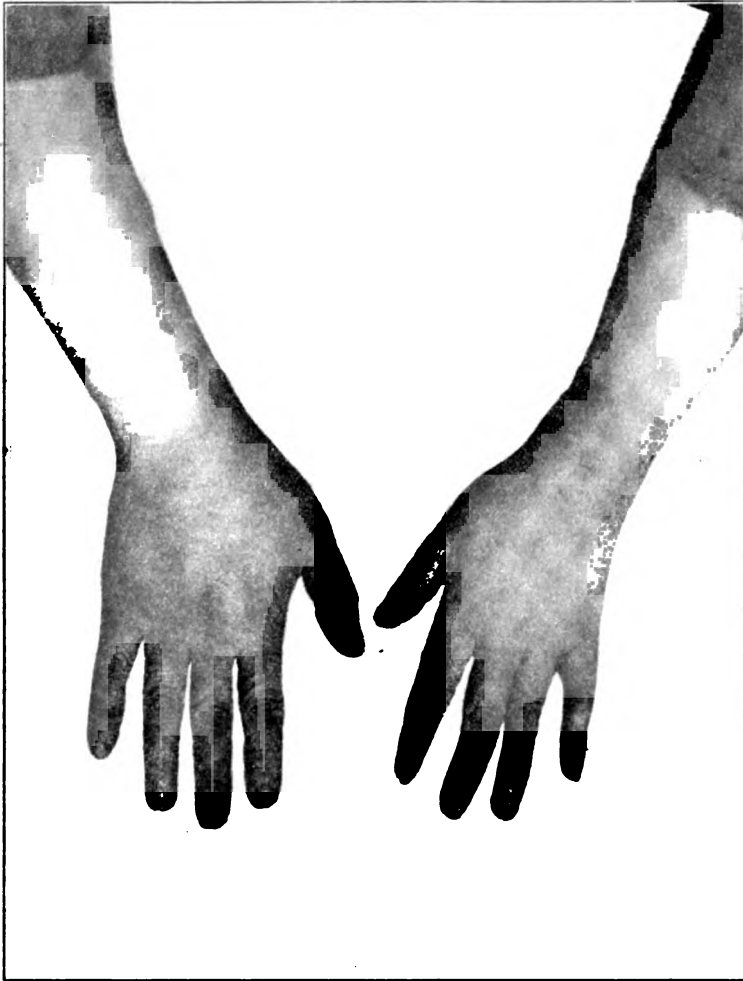
foot. This proportion, a little more than one-third, represents very nearly the ratio in which flat-foot symptoms are mistaken for rheumatism.

It is usually a source of no little surprise to the patients when told that their symptoms are due to the sinking of the arch of the foot. The pain is often not referred to any part of the arch itself, but to the base of the big toe and to the muscles of the calf. As a rule, these patients have known of the existence of their flat-foot for some time, and yet the symptoms have come on rather unexpectedly. Generally the pain is mainly felt in one leg, though both feet are usually "flat." It will usually be found that patients have run down in health shortly before the development of their symptoms. Sometimes, on the contrary, they will be found to have taken on considerable weight, not infrequently becoming distinctly obese during the year immediately preceding. The patients are usually persons who have to stand on their feet a good deal, the majority being waiters and waitresses, male and female cooks, clerks, or shop-girls.

Very often the symptoms are worse during changeable weather and on damp or rainy days. One reason for this is that on damp, muddy days these patients are apt to wear old shoes, which furnish much less support to the arch of the foot than do snug, well-fitting new ones. This is, the author thinks, the most important factor in the exaggeration of the discomfort of flat-foot in damp weather. Besides this, however, it is undoubtedly true that superficial nerves are more sensitive when there is much dampness. The reason for this is that the skin becomes cold, and the circulation is interfered with so that the sensitive terminal nerve-end-

ings fail to receive their proper amount of blood. On cold days this disturbance of circulation is not so noticeable, because dry cold causes a reaction in the capillary circulation, and the nerves

fied as soft, hard, alveolar, and multiple. The hard myelogenous variety, generally called endosteal, or central, sarcoma, also shows the ordinary sarcomatous structure. But its distinguish-



Uniform Atrophy of the Hand, Four Years After Resection of the Wrist.

receive proper nutrition. J. J. Walsh (American Medicine, Nov. 30, 1901).

SARCOMA, MYELOGENOUS.

Sarcoma originating from the medulla is called myelogenous. It may be classi-

ing feature is its fibrous texture and the presence of spindle cells. Some portions contain various tissues, the spindle-cell tissues often containing giant cells. If some smaller or larger bone-trabecules are produced, it is called

osteosarcoma proper; if there are calcareous deposits, petrifying sarcoma; and if the tissues become vascular, a telangiectatic sarcoma will be formed, so that it may be mistaken for an aneurism. In later stages, when there is a regressive metamorphosis, fatty or cystic degeneration may take place. Then neoplasms, which occur especially in the femur, tibia, and inferior maxilla, may attain an enormous size.

The sciagraph of osteosarcoma proper shows more osseous tissues than the soft myelogenous variety, but its outlines are very irregular. They usually commence near the epiphysis of a long bone.

Case of a woman of 40 years, in whom the destruction of the lower third of the radius and of a large portion of the carpus occurred. Resection was performed more than four years ago. The perfect result is illustrated in the figure, which shows a slight and most uniform atrophy of the whole left hand. Carl Beck (*Annals of Surgery*, Dec., 1901).

SCOLIOSIS.

From experiments on the cadaver and model it is evident that forcible attempts to correct bony rotation must be made with much care, remembering that it is easier to twist the whole thorax unchanged than to effect any considerable change in the curve itself.

This has been recognized in the construction of some of the instruments for forcibly correcting the spine. Much apparatus has aimed only at oblique forward pressure on the bony rotation; for example, the "Detorsions apparat" of Schulthess. This sort of pressure, while it may diminish the rotation, so far as it is effective will increase the lateral curve.

This criticism applies not only to the use of much corrective apparatus, but

also to gymnastic work, where attempts to correct the rotation in fixed curves is made by manual pressure upon the prominent ribs. Figs. 1 and 2 are a sufficient comment on this class of work.

In so far as the corrective force used presses forward upon the rotated ribs, it must be met by counterpoints of force

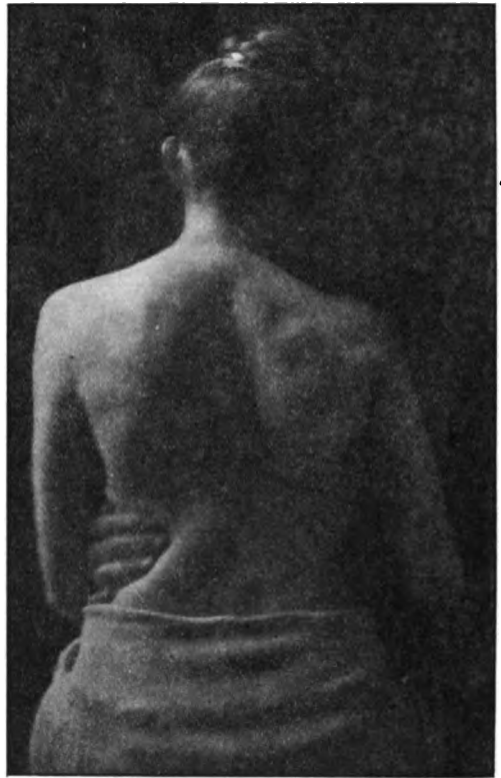


Fig. 1. — Rotation Diminished by Forward Pressure on the Right Side of Thorax. No Lateral Pressure is Being Made.

on the thorax, preventing the rotation of the thorax as a whole; otherwise the force will be dissipated through the spine, and the thorax will be twisted unchanged. If it is met by such counterpoints of pressure, the force will be expended on the thorax, and will be corrective so far as it is effective.

Attempts, in fixed curves, to diminish the rotation by force in any degree directed forward, not carefully antagonized on the thorax, will lead to an increase of the lateral curve. Conversely, attempts to diminish the lateral curve by pure lateral pressure, not carefully antagonized, will result in fixed

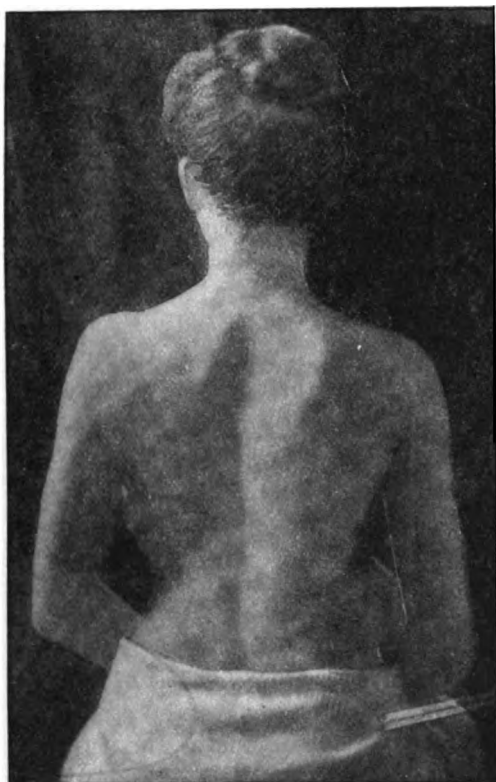


Fig. 2. — Rotation Increased by Forward Pressure on Left Side of Chest. No Lateral Pressure.

curves, in an increase of the rotation, as it is easier for the whole thorax to rotate backward than to give way laterally.

If forcible correction is to be used properly, both forward and lateral force must be met by opposing forces on the thorax itself; the force must be ex-

pended on the curve and limited to the thorax. The only way to do this, obviously, is to keep the thorax from rotating on the movable points of the spine, and to exert the pressure there instead of distributing it through the spine.

In flexible cases, on the other hand, the reverse seems to be true, that rotation and lateral deviation are parts of one movement and are correlated. Given, however, a fixed condition of a distorted spine, and the conditions are changed.

An active or passive rotation of the spine in one direction causes a right-dorsal, left-lumbar curve, and, in the opposite direction, a left-dorsal, right-lumbar curve. This suggests that one or the other of these rotations might be used with benefit in a given case, in addition to direct lateral or oblique pressure, in the application of corrective jackets to secure improved position of the lateral curve. The same is equally true of their probable usefulness in gymnastic work.

It seems not unlikely that the understanding and use of rotation of the spine as a corrective measure in scoliosis may be the next step in progress. R. W. Lovett (Boston Med. and Surg. Jour., Oct. 31, 1901).

SIPHON, AUTOMATIC.

One of the principal difficulties in arranging for infant-feeding with the proper portion of ingredients in the prepared food is the difficulty of easily obtaining cream of a definite percentage of fat-content. The siphon personally used will overcome this difficulty. It is a creaming siphon that will effect the complete separation of the cream at the cream-line, or deliver a mixture of cream and skim-milk at any line to be determined upon. The

ordinary quart milk-bottle is used as the source of the cream and milk. This is supposed to hold 32 ounces. The table on which the bottle rests must be level and the siphon must be inserted to the bottom of the bottle. The end of the siphon that dips into the bottle is funnel-shaped. This enables it to be filled easily with water, and this lessens the danger of the nurse-maid applying her mouth to the end of the siphon in order to start the flow of liquid, which is always an objectionable proceeding. Moreover, the presence of the funnel makes it easier to clean the tube in running water, and when inserted into the bottle the funnel-shaped end causes the instrument to rest more evenly on the bottom of the bottle than would otherwise be the case. If about 4 ounces are allowed to remain in the milk-bottle, with the usual milk, this will contain about 20 per cent. of fat. When 6 ounces are left it contains about 15 per cent.; 8 ounces, about 12 per cent.; 11 ounces, about 10 per cent.; and 16 ounces, about 8 per cent. of fat. The ordinary milk as served to customers in cities is presumed to contain, according to well-known investigation, about 4 per cent. of fat. H. L. Coit (Medical News, Nov. 30, 1901).

SPINE, CARIES OF THE.

In an analysis of a thousand cases of spinal caries an endeavor was made to ascertain the first symptom in each case.

In the cases occurring from birth to five years of age there were symptoms 568 times; in 32 cases the child was brought to the hospital for some trouble not directly referable to the spinal disease.

In the cases from birth to the age of five, the first symptom noted was the

unnatural attitude of the child. Of the 600 cases occurring within these years, 189 held this unnatural position, while pain was the prominent feature of 139 cases. In 63 cases the kyphosis was the first manifestation of the disease. In 126 cases the trouble was called to the attention of the surgeon by night-cries, gastralgia, and progressive weakness, while grunting respiration, inability to walk, and abdominal protrusion were present in but a very small number. At the time of the first examination of these 600 cases, the record shows that there was no evidence of deformity in 157 patients.

From close inspection of the tracing of those cases in which deformity occurred, it was found to be marked in 99 cases, moderate in 140, and slight in 204.

In the years from five to ten, pain in the back was the symptom complained of most frequently. In the cases from birth to five, the objective symptoms—attitude, deformity, and night-cries—occurred in the larger proportion of cases.

In reference to the deformity, 95 of the 260 cases presented marked deformity at the time of the first examination.

In the ages from ten to fifteen and from fifteen to twenty pain was found to be the first symptom in the majority of cases, while the deformity was scarcely noticeable at the time that the patient first came under observation, although it was more noticeable in those cases occurring in from ten to fifteen years, in which the deformity was of a moderate type at the time these cases were first seen.

From twenty to thirty years, pain in the back was, in the greatest number of cases, the symptom, while in patients over thirty years old pain and progressive weakness were the first symptoms.

The deformity was marked in almost all these cases.

In the 1000 cases, abscesses were recorded 158 times, or over 15 per cent., during the first ten years of life; 139 patients had abscesses, the greater number being psoas, fewer iliac and pelvic. Vulpis, in 1945 cases, finds abscesses clinically observed 476 times: almost 25 per cent.

Paraplegia appeared in 41 cases during the course of the disease, and 50 patients had tuberculous complications: a focus of tuberculous disease in some other joint or bone.

The duration of the disease before treatment was begun has some bearing on the prognosis. One patient continued to have symptoms 29 years after the onset of the disease; another, 25 years; several others had active disease for 14, 13, 11, and 10 years. In only one case was a child brought for treatment within 24 hours after the child uttered the first complaint or attention was called to the presence of the disease. J. H. Waterman and C. H. Jaeger (*N. Y. Med. Jour.*, Nov. 9, 1901).

TABES MESENTERICA.

The clinical term "tabes mesenterica" is used to indicate those cases in which the tuberculous enlargement of the mesenteric glands can be detected clinically, and is associated with wasting, without evidence of tuberculous lesions elsewhere in the body. The prognosis of tabes mesenterica is by no means hopeless. Several of these cases have improved so much that it seemed probable the disease was arrested, and if treatment is begun early, before there are signs of tubercle in the lung and before there is any extreme wasting, a certain number of them will get perfectly

well. It is to be remembered, however, that, even if tabes mesenterica seems to have recovered completely, there are still possibilities of trouble at a later period. A mass of caseating glands may easily be the starting-point of a localized inflammation of the peritoneum, and, without any more general inflammation occurring, adhesions may form between the glands and the neighboring structures. These local adhesions are apt to give rise to trouble long after the tabes mesenterica seems to have quite recovered.

By far the most important part is the hygienic treatment, particularly by climate. If the child can be sent away to the sea-side, it will be much better than any amount of drugging.

What one has to aim at in the question of feeding is to give plenty of nourishing food, and at the same time to give food which shall leave as little residue as possible which might irritate the intestine, for the intestine is ulcerated in most of these cases. The child should be fed as far as possible with eggs, custard, well-cooked milk-puddings, and gravy. Milk and eggs are to be considered chief items in the diet, and in choosing other foods those should be selected which will leave little residue, and are not likely to give rise to fermentation in the intestine.

As to drugs, iodide of iron is particularly valuable in these cases. Another drug which may be useful is creosote.

For the diarrhoea, if it occurs, castor-oil may be used in small doses (5 minims) three times a day; it seems to have a particularly soothing effect on the mucous membrane of the lower part of the intestine, and creosote ($\frac{1}{4}$ to 1 minim) may usefully be combined with it. G. F. Still (*Clinical Journal*, Dec. 11, 1901).

TENDON-JERKS.

The state of the tendo-Achillis jerk has been regarded as of especial value in the diagnosis of early tabes and in the differential diagnosis of real from hysterical sciatica. It is especially in cases of tabes in which the knee-jerks are still preserved that loss of the tendo-Achillis jerk has proved of service in the diagnosis of this disease. In sciatica the tendo-Achillis jerk is commonly abolished on the affected side, whereas this is not the case in hysterical sciatica. The state of the tendon-jerks of the lower limbs serves to indicate the degree of severity of a lesion in the spinal cord above the level of the lumbar enlargement. In incomplete transverse lesions, such as commonly result in myelitis, there is ankle-clonus and the knee-jerks are exaggerated, whereas with complete transverse lesions, such as are usually caused by fracture-dislocation of the spinal column, there is no ankle-clonus and the knee-jerks are abolished. A satisfactory explanation of why there should be this difference had been supplied by the results of Sherrington's experimental observations, which made it clear that augmenter influences passed from the ponto-cerebellar region to the spinal segments to maintain muscle-tonus. Incomplete transverse lesions of the spinal cord, while sufficient to prevent the inhibiting influence of the cerebral centers from reaching the spinal segments, still allowed the augmenter influences to reach them, whereas in complete transverse lesions the augmenter influences were also cut off, and the spinal segments in men did not possess sufficient autonomy to be capable of preserving muscle-tonus in the absence of the augmenter influences from above. Risien Russell (*Brit. Med. Jour.*, Nov. 23, 1901).

THIICOL.

Thiicol possesses greater therapeutic activity than any other combination of guaiacol or creosote. It has been given freely in infancy and in old age. In the cold, wet weather from January to April many cases of subacute tracheitis and bronchitis, existing from several weeks to three or four months, were treated. Some of these patients also suffered from muscular rheumatism. Under the use of small doses of thiicol every case recovered in a remarkably short period of time. It is of no utility in cough arising from pathological conditions of the pharynx, naso-pharynx, or tonsils. These troubles are best treated locally. It is a very valuable agent in the second stage of pulmonary phthisis, the fever defervescing, cough lessening, appetite improving, and in many cases the patients gaining flesh.

It is a splendid remedy for catarrhal conditions of the intestinal tract, the common bile-duct, and cystic or hepatic ducts.

In typhoid fever thiicol is an ideal intestinal antiseptic, and tends to diminish the bronchial complications. In all cases it may be prescribed in cinnamon-water or essence of pepsin, 5 grains to each fluidrachm. Dose: 1 teaspoonful three times a day: two or three hours after meals if it is desired to act on the intestinal mucous membrane. The average teaspoon will be found to hold $1\frac{1}{2}$ fluidrachms, thus making the dose of thiicol $7\frac{1}{2}$ grains. If this dose does not benefit, higher dosage will do no better. J. B. Johnston (*Merck's Archives*, Nov., 1901).

TRIONAL.

During the past few years both the profession and the laity have been using sulphonal and trional in the most reck-

less manner, due to the wide-spread belief that the employment of these remedies is comparatively without danger. Trional differs from sulphonal merely in the substitution of an ethyl for a methyl group. Its hypnotic and sedative values are considered to be identically the same, but its main advantage is supposed to depend upon its non-toxic character; but the claims for the non-toxic character of trional as compared with sulphonal must receive revision. Their intimate chemical relationship, their identical physiological action, and the similarity of the accidents following their use would lead to the conclusion that they must, for all practical purposes, be considered as identical.

Abdominal distress and urinary derangements, including hæmatoporphyria, indicate trional poisoning of a very grave character, and in so-called safe doses trional may give rise to serious, even fatal, toxic conditions. Archibald Church and E. B. Hutchinson (Chicago Med. Recorder, Nov., 1901).

TUBERCULOSIS OF THE PERITONEUM.

The diagnosis of tuberculosis of the peritoneum in children is based upon the abdominal symptoms, such as distension, pain, and disturbed bowel action, the presence of fluid, and loss of weight. There is almost always a febrile rise of temperature of an irregular type. If the ascites is sacculated instead of diffuse, the diagnosis of tuberculosis of the peritoneum is even more likely. Cirrhosis of the liver is rare before the age of nine years, and, if it is present, there is usually the history of syphilis and more or less jaundice. If there is no ascites present, one must make the diagnosis on the presence of the irregular tumors. A chronic abscess in children,

opening at the umbilicus, is always suspicious. The family history aids somewhat, but cannot always be relied upon. In adults, when there is no exudate present, diagnosis can often be easily made from the presence of the omental tumor and of the irregular nodular tumors. The latter are usually multiple, and must at times be differentiated from a multiple carcinoma. The transverse omental tumor must be differentiated from a gastric carcinoma. Kelly says that tuberculosis must be borne in mind in all cases of pelvic inflammatory disease, with masses posterior and lateral to the uterus, in which there is marked tenderness on pressure in the vagina or over the abdomen. He gives the following as the important differential points to distinguish an encapsulated tuberculosis of the peritoneum from an ovarian cyst or a fibrocystic tumor of the uterus: (a) Rapid growth of the effusion. (b) Coincident pleurisy, a greater degree of gastro-intestinal disturbance than in ovarian cyst, and at the edges of the tumor, especially if the fluid has been removed by tapping, one feels irregular, hard masses. By bimanual examination through the rectum and abdomen, the cervix being drawn down, a fibrocystic tumor can be felt to be connected with the cervix; an ovarian cyst can be recognized by its pedicle. Occasionally tubercle bacilli or tubercles may be found in the discharge or in the curettings. When the ascites is free, it must be distinguished from the ascites due to cirrhosis of the liver, in which the history attained of a previous alcoholism and the examination of the character of fluid are the most valuable symptoms, although the combination of tuberculosis of the peritoneum and cirrhosis of the liver is not infrequent. It is almost impossible to

differentiate the simple non-tubercular from the tubercular peritonitis. When the family history is good, and there are no signs of tuberculosis elsewhere, no tenderness, and an excessive amount of fluid, the chances are that the case is one of simple peritonitis. D. N. Eisen-drath (*Annals of Surgery*, Dec., 1901).

TYPHOID IN CHILDREN, WIDAL TEST IN.

Typhoid in children in the hospital experience runs an atypical and often an anomalous course. The temperature-curve is not infrequently irregular, the spleen is often not enlarged, and, besides, enlargement of the spleen is not as significant in children as in adults, because it occurs whenever rachitis exists or in intestinal disturbances generally. The method of applying the Widal test at Mount Sinai Hospital was to determine whether agglutination of the bacilli took place when the blood was diluted to the extent of 1 to 20. If there were still doubts, then the test was repeated with a dilution of 1 to 50. Dried blood was used in all cases, except where the clinical course of the case aroused serious suspicions of typhoid and yet the Widal test continued to be negative. In somewhat less than half the cases typhoid fever in children ran the usual course. In the remainder it was suspected that other diseases were present. Among these were such conditions as tuberculous meningitis or peritonitis, certain cases of pneumonia, and some seemingly simple intestinal conditions. In only 36 of over 100 cases was the Widal reaction positive at a first examination. Thirteen per cent. of the cases gave the reaction before the seventh day of the fever, 46 per cent. before the fifteenth day, and 85 per cent. before the twenty-

fifth day. In more than half the cases, therefore, the Widal reaction left the diagnosis in doubt until well on in the third week. M. A. Gershel (*Medical News*, Nov. 30, 1901).

UTERUS, RUPTURE OF, DURING LABOR.

Rupture of the womb is often very hard to diagnose, but in the greater proportion of cases the patient's face assumes the expression of suffering, and the eyes may look sunken. Should there be much bleeding, the face becomes very pale, and is covered with cold perspiration. The eyes turn restlessly from side to side, and the consciousness is often clouded, while vomiting and nausea are often noted. Burning pains in a definite location cause the patient to cry out almost constantly usually. The slightest touch on the abdominal wall over the rupture gives intense pain, but sometimes little or none is felt. The patients may feel something give way in the abdomen at the time of the rupture. Following a rupture are seen arrest in the progress of the labor, shock, and irregularity in the outline of the abdominal tumor, together with the appearance of the foetal parts in the abdomen, so that they may be felt immediately under the wall in cases of complete rupture. A very important sign is the sudden cessation of the foetal heart-beat. On vaginal examination the presenting part will be found to have receded from its position further upward in the pelvis. D. D. Popoff (*Vratch*, Oct. 27, 1901).

ZYMOTIC DISEASES, RENAL SECRETION IN.

In studying the renal secretion in the zymotic diseases, the following conclusions may be emphasized:—

1. That pathogenic organisms may be present in the urine in some zymotic diseases, notably plague and enteric fever, but the percentage of cases showing typhoid bacilluria is small.

2. That the spread of the infection of enteric fever by means of the urine must be prevented in the interests of the public health. The risk is not attached to every case, but the insidious nature of the bacilluria demands that no enteric-fever patient should be discharged from supervision until the absence of bacilluria has been proved. In those cases in which bacilluria has occurred during the course of the disease, its cessation must be proved by bacteriological examination of the urine, before the patient is allowed to resume ordinary life. By careful daily observation in every case of the appearance of the fresh urine, during the fortnight before the discharge of a patient, the physician should note any cloudiness or turbidity, or any sediment. These are valuable guides as to those urines in which further examination is desirable. The nature of sediments should be determined, and all urines observed to be cloudy should be examined bacteriologically.

3. The influence of other organisms on the bacillus typhosus in mixed cultures varies with the relative vigor of the respective stocks thus mingled. The typhoid organism is usually the less hardy, and as time goes on there is greater difficulty isolating it.

4. That there are a large number of organisms, intermediate between the bacillus typhosus and the bacillus coli communis, approximating more or less closely to one or the other type.

5. No fundamental distinction exists between bacillus coli communis and bacillus typhosus in the matter of indol production. Both are indol-producing organisms in suitable media. The indol reaction in 1-per-cent. peptone broth is a valuable discriminative test between the two organisms *only* when the typhoid organism is freshly cultivated and the bacillus coli communis is typical.

6. That casein-peptone solution is the best medium for testing powers of indol production.

7. That Remy's jelly, alkaline-peptone bouillon, and casein-peptone solution are useful additions to the list of media. C. J. Lewis (Edinburgh Med. Jour., Dec., 1901).

Book Review.

RATIONAL HYDROTHERAPY. A Manual of the Physiological and Therapeutic Effects of Hydriatic Procedures, and the Technique of Their Application in the Treatment of Disease. By J. H. Kellogg, M.D., Battle Creek, Mich. F. A. Davis Company, Philadelphia, 1901.

In the above work Dr. Kellogg treats with commensurate skill the following subdivisions of the subject: Historical; the Physics of Water, Air, Heat, and Light in Relation to Hydrotherapy; Anatomy and Physiology in Relation to Hydrotherapy; the Physiological Effects of External and Internal Application of Water; the Physiological Effects of Friction, or Mechanical Irritation, of the Skin; the Physiological Effects of Light; the General Principles of Hydriatics; the Therapeutic Effects of Hydriatic Applications; General Rules, Principles, and Suggestions Relating to the Practical Employment of Hydrotherapy; Hydriatic Institutions and Their Equipment, and the General Management of Cases; the Technique of Hydrotherapy; Hydriatic Prescription Making; and closes with a summary of experimental work done in his laboratory.

The majority of such books are usually mere reviews of the mechanical uses of water in the various diseases, and the reader can acquire but little, if any, scientific knowledge. Dr. Kellogg has gone more deeply into the subject, and carefully studies the various phases of physiological activity under the influence of hydrotherapeutic methods. Each class of tissues, —cutaneous, muscular, etc.,—as relates to this mode of treatment; the physics of heat production, regulation, and dissipation; thermic functions in general, and calorimetry are first analyzed, in order to adequately prepare the reader for the practical side of the question. The effects of cold on various systems—muscular, respiratory, nervous, etc.—are also reviewed, including those produced upon the neuron, which is stated to respond to its influence precisely as does the amoeba and the leucocyte,—i.e., reduction of activity,—while heat causes extension of its pseudopodia or protoplasmic processes. Hence, cold applications to a nerve-trunk may impair its functions, while short cold applications to the head result in increased cerebral activity, the reaction completely overshadowing the brief depression first produced. The reflex effects of cold applications to various parts of the organism are outlined. The length of the application *plus* the temperature of the water greatly modify the effects, but applications to the one region seem always to produce effects in a certain corresponding region which may be quite remote from it. The stomach, for instance, is actively influenced by applications to the lower dorsal spine, the kidneys by applications to the lower portion of the sternum and the feet, besides, of course, the lumbar region, etc.

These features are merely mentioned to indicate how thoroughly the author has gone into the subject and the many valuable hints usually unknown to the practitioner that may be obtained from this work. The technic of hydrotherapy in each disease is not only given, but the large number of illustrations added to the text make it possible for a general practitioner to readily grasp the author's meaning and apply his teachings in his every-day work. On the whole, Dr. Kellogg's work is probably the most satisfactory work on hydrotherapy on the market, and he is to be sincerely congratulated.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

TRANSACTIONS OF THE TWENTY-THIRD ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. Held at New Haven, Conn., May 27, 28, and 29, 1901.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY. Thirty-fourth Annual Meeting. 1901.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, WITH ESPECIAL REFERENCE TO THE CLINICAL APPLICATION OF DRUGS. By John V. Shoemaker, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association, of the Pennsylvania and Minnesota State Medical Societies, the American Academy of Medicine, the British Medical Association; Fellow of the Medical Society of London, etc. Fifth Edition, Thoroughly Revised. Pages viii-1143. Size, 9 1/4, x 6 1/4, inches. Extra Cloth, \$5.00, net; Sheep, \$5.75, net, Delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

STUDIES IN THE PSYCHOLOGY OF SEX. SEXUAL INVERSION. By Havelock Ellis, L.S.A. (England); Fellow of the Medico-legal Society of New York and the Anthropological Society of Berlin; Honorary Fellow of the Chicago Academy of Medicine, etc.; General Editor of the Contemporary Science Series since 1899. The "Studies in the Psychology of Sex" will Probably be Completed in Five Volumes. "Sexual Inversion" is Second Volume in the Series. Pages xi-272. Size, 8 1/4, x 5 1/4, inches. Extra Cloth, \$2.00, net, Delivered. Sold Only to Physicians, Lawyers, Advanced Teachers, and Scientists. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

A BRIEF MANUAL OF PRESCRIPTION-WRITING IN LATIN OR ENGLISH. For the Use of Physicians, Pharmacists, and Medical and Pharmacal Students. By M. L. Neff, A.M., M.D., Cedar Rapids, Ia. Pages v-152. Size, 8 x 5 $\frac{1}{4}$ inches. Extra Cloth, 75 cents, net, Delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

Carcinoma of the Breast. By Carl V. Vischer, Philadelphia, 1901.—A Comparative Climatic Study of the Arid and Semitropic Southwest and its Relation to Tuberculosis. Presented to the Rocky Mountain Interstate Medical Association, Denver, Col., September 4, 1901. By William Winthrop Betts, Los Angeles, Cal.—Some Auxiliaries to Climatic Treatment of Phthisis. By J. Edward Stubbert, Liberty, N. Y., 1899.—The Case Method of Teaching. By Charles H. Frazier, Philadelphia, 1901.—A Brief Report of a Series of Interesting Cases Recently Seen. By Alexander Marcy (Jr.), Riverton, N. J., 1900.—The Hygienic and Mechanical Treatment of Heart Disease. By Boardman Reed, Philadelphia, 1901.—Treatment of Suppurating Hæmatocele Due to Extra-uterine Pregnancy. By G. E. Shoemaker, Philadelphia, 1901.—Clinical Report. By G. E. Shoemaker, Philadelphia, 1898.—Appendiceal Fistula. By John B. Deaver, Philadelphia, 1901.—Subsequent Histories of Patients Apparently Cured Under Administration of Antitubercle Serum as an Auxiliary to Climatic Treatment. By J. Edward Stubbert, Liberty, N. Y., 1900.—Chronic Gonorrhœas and Post-gonorrhœal Urethritis. By Ferd. C. Valentine, New York, 1901.—Cleft Palate and its Relation to Speech. By G. Hudson Makuen, Philadelphia, 1901.—Speech as a Factor in the Diagnosis and Prognosis of Backwardness in Children. By G. Hudson Makuen, Philadelphia, 1901.—Report of a Case of Unusual Tertiary Manifestations. By G. Hudson Makuen, Philadelphia, 1901.—Simple and Ethereal Sulphates, a Simple and Rapid Method for their Separate Determination. Thirty Minutes. By G. W. McCaskey, Fort Wayne, Ind., 1900.—Physiology, the Basis of Clinical Medicine: A Plea for Scientific Methods. By G. W. McCaskey, Fort Wayne, Ind., 1901.—Intratracheal Injections in Bronchial and Pulmonary Affections. By Willis S. Anderson, Detroit, Mich., 1901.—A Combined Slide and Cover-glass Forceps. By L. Napoleon Boston, Philadelphia, 1900.—The Spread of Tuberculosis by Coughing. By L. Napoleon Boston, Philadelphia, 1901.—Latent Pulmonary Tuberculosis. By C. R. Upson, Waterbury, Conn., 1901.—A Case Resembling Morbus Cæruleus, Probably Due to a Dusting-powder Containing Acetanilid. By S. E. Earp, Indianapolis, Ind., 1901.—Chancre of Tonsil, with Report of Thirty-five Cases. By John Edwin Rhodes, Chicago, Ill., 1901.—The Relation of Out-door Life to High-Altitude Therapy. By Charles Denison, Denver, Col., 1901.—Devitalized-Air Toxæmia, a Prime Cause of Tuberculosis. By Charles Denison, Denver, Col., 1901.—Mental Disturbances in the Course of Cardiac Disease. By A. Zederbaum, Denver, Col., 1901.—The Value of Electrolytic Dilatation of the Eustachian Tubes in Chronic Tubal Catarrh and Chronic Catarrhal Otitis Media. By A. B. Duel, New York, 1900.—Sanitarium Treatment of Pulmonary Tuberculosis. By J. Edward Stubbert and Stephen W. Wells, Liberty, N. Y., 1898.—Otitic Sinus-phlebitis and Thrombosis. By J. E. Sheppard, Brooklyn, N. Y., 1901.—Fourth Report of the Committee of Inspection Appointed by the Executive Committee of the Post-graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-graduate Hospital, New York, November, 1901.—Official Report of the Camden Board of Health Concerning the Cases of Tetanus which Occurred in Patients Who Had Been Vaccinated. 1901.—Fifth Annual Report of the Board of Managers of the Pennsylvania Epileptic Hospital and Colony Farm. For the Year Ending December 31, 1900.—Recherches sur la Bactériologie de l'Ozène. Par le Dr. Fernand Perez, Buenos Ayres, 1900.—L'Ozène (Rhino-sinusite Atrophique Fétide), Bactériologie, Etiologie, Prophylaxie. Par le Dr. Fernand Perez, Buenos Ayres, 1901.—The Influence of Environment upon the Composition of the Sugar-beet. By Harvey W. Wiley, United States Department of Agriculture, Washington, D. C., 1901.—Relation of Bovine Tuberculosis to the Public Health. By D. E. Salmon, United States Department of Agriculture, Washington, D. C., 1901.—Statistics on the Fruit Industry of California. By Edwin S. Holmes (Jr.), United States Department of Agriculture, Washington, D. C., 1901.—Proceedings of the International Good Roads Congress, held at Buffalo, N. Y., September 16 to 21, 1901. United States Department of Agriculture, Washington, D. C., 1901.

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Editorial.

THE URIC-ACID DIATHESIS (*Continued*).

In our last number reference was made to the fact that modern teachings tended to show that the so-called "uric-acid diathesis" and the various morbid phenomena attributed to it were, in reality, due to the toxic effects of the alloxuric bases derived from nucleins, the latter, in turn, originating from the body-cells—particularly leucocytes—and certain articles of food. Evidence was also adduced to show that conversion of these poisonous substances into harmless bodies by oxidation was a physiological function, and that the *inert* product was uric acid.

The most interesting feature next in order, especially from the standpoint of practice, is the identification of the articles of food that are liable to enhance the

production of alloxuric bases by contributing to the organism the nuclear elements from which they are derived. The results of experiments by A. E. Taylor,¹ tabulated below in abbreviated form, which illustrate the comparative effects of various forms of diet, are particularly valuable in this connection.

	TOTAL NITROGEN.	UREA NITROGEN.	PER- CENTAGE.	UREA.	URIC ACID.	ALLOXURIC, OR PURIN, BASES.
PERIOD I. <i>Mixed normal diet</i> , avoiding sweetbreads, liver, and brains. Body-weight (about 160 pounds) remained constant. No albumin or sugar.	20.936	19.018	90.8	40.752	0.364	0.0249
PERIOD II. <i>Diet of sweetbreads</i> , one pair three times daily, with bread and non-proteid vegetables. No other animal proteid eaten. On third day, a three days' period of diarrhoea began, with anorexia, nausea, headache, malaise, and some abdominal pain. During this period uric acid fell to less than one-third of that of first days. .	21.541	17.741	82.3	38.017	0.871	0.0271
PERIOD III. <i>Heavily proteid diet</i> , with bread, fruits, green vegetables, non-proteid desserts. Six eggs for breakfast; sirloin steak both luncheon and dinner; large portion of cold roast beef at midnight (in all, about 200 grammes of proteid; diet over 2500 calories). Agreed perfectly; gained three pounds. No albumin or sugar in the urine.	30.566	27.543	90.1	59.021	0.456	0.0223
PERIOD IV. <i>Purely vegetable diet</i> , especially pease and beans, nuts and bread; no milk or eggs nor animal fat used in cooking. Weight constant. No albumin or sugar in urine.	11.874	10.984	92.0	23.430	0.462	0.0195
PERIOD V. <i>Milk diet</i> ; 2720 cubic centimeters taken daily; contained a little over 4 per cent. of proteids; 6 per cent., each, of sugar and fats, about equal to 2700 calories. Agreed perfectly. No albumin or sugar in urine.	17.921	16.899	94.3	36.213	0.284	0.0112
PERIOD VI. <i>Nitrogen-free diet</i> (less than 0.200 grain N daily): sago, 350 grammes; sugar, 50 grammes; and butter, 100 grammes. While this sufficed to supply heat, it left only the body's tissues for its own nitrogenous metabolism. Six pounds lost; bowels moved but twice in eight days; distinct loss of strength. No albumin or sugar in urine. Prolonged rest taken.	4.380	3.611	82.4	7.738	0.273	0.0066
PERIOD VII. <i>Normal diet with coffee and beer</i> ; three cups of coffee and two pint bottles of beer daily = about 700 l.	20.797	18.636	89.6	39.935	0.721	0.0544
PERIOD VIII. <i>Normal diet with coffee and no beer</i> ; a little more coffee, but no alcoholic beverage.	20.043	18.304	91.3	39.225	0.826	0.0651

As Dr. Taylor submitted himself to the trying ordeal involved, he was able to control every detail of the investigation—an impossibility under other circumstances. The general plan of the work is referred to by him as follows: "The specific diet having been entered upon, the collection of the entire daily urine was begun upon the *third* day of the diet, and was continued for *six* successive days. The body-weight was noted before and after each period. Between these periods of different diet a mixed diet was employed, except that tea, coffee, cocoa, chocolate, and alcoholic beverages were entirely avoided. I do not use tobacco. The only exercise taken was that involved in the laboratory-work required for the estimations, which, together with other work, amounted in all to about seven hours of laboratory-work daily. Seven hours of sleep, the normal personal quota, were taken daily. The total urinary nitrogen—the urea, the uric acid, and the purin bases—were estimated daily during the six days of each period; the total nitrogen was estimated by the Kjeldahl method; the urea by the Mörner-Sjöqvist method; the uric acid by the Salkowski-Ludwig method, as taught by Salkowski; and the purin bases by the new Salkowski method."

The two prominent features of these results to which attention may be called are: First, the marked increase of uric acid, both under the use of the sweetbread diet and under a normal diet that included coffee. And, second, its limited increase under a rich proteid diet—one which the clinician looks upon as the very bane of uricacidæmics. That sweetbreads, liver, brains, kidneys, etc., are exceedingly rich in nucleins and are capable of causing a marked increase in the output of uric acid is fully sustained, but it is a question whether coffee, tea, and other similar beverages should be classed, from the clinical stand-point, among the exogenous sources of alloxuric bases. This contention seems to be emphasized by an analysis of Dr. Taylor's table, notwithstanding the fact that under the use of coffee both the alloxuric bases and the production of uric acid in his case were greatly increased.

If, in the light of the more recent researches, the increase of uric acid is to be regarded as a prophylactic process, why should coffee, tea, and kindred substances not give rise to this increased output through their recognized properties as stimulants? Under these circumstances they would no longer be direct sources of uric acid, but promoters of oxidation through excitation of the respiratory centers. The insomnia which coffee produces in persons unaccustomed to its use attests its marked stimulating powers. Dr. Taylor specifies, we have seen, that, between the experimental periods, he employed a mixed diet, "except that tea, coffee, and alcoholic beverages were entirely avoided." As there were six periods of six days each and several periods of rest before the first "coffee" period was reached, we can legitimately assume that he remained two months without using these stimulants. Abruptly, he then took coffee three times a day. That both his uric acid and his alloxuric bases under these circumstances should be greatly increased seems but normal.

Again, coffee, tea, and other beverages are said to increase leucocytosis, and thereby to indirectly give rise to accumulation of nucleins, from which the alloxuric bases are derived. Hence the high percentage of the latter under the use of these beverages. But why should an excessive daily diet, such as that outlined under

¹ American Journal of the Medical Sciences, August, 1899.

"Period III," including heavy meats, sirloin steak, roast beef, eggs, etc., also known to produce post-prandial leucocytosis, only show, under strict observation, a ratio but slightly in excess of the normal? Evidently some radical difference must exist between the physiological actions of the incriminated beverages, on the one hand, and the excessive normal diet, on the other, notwithstanding the property possessed by both of causing leucocytosis.

This leads us to inquire into the nature of leucocytosis. The prevailing view is that of Goldscheider and Jakob, who attribute this phenomenon to the stimulation of the leucocytogenetic structures—bone-marrow, the spleen, etc.—by poisons, owing to an attractive influence possessed by the latter over leucocytes. But why should this view not be reversed and the chemotactic powers be attributed to the leucocytes? Concordance with the more solidly established data would thus be obtained. Metchnikoff's mobile microphages are mononuclear and polymorphonuclear *leucocytes*; Buchner's alexocytes, the source of his bactericidal alexins, are also *leucocytes*; and the evidence in favor of the contention of these investigators, that the function of the white blood-corpuscles of the class mentioned is to protect the organism, has been overwhelming. Why should post-prandial transitional leucocytosis not represent a protective process associated directly or indirectly with the destruction of toxic products of nuclein metabolism? Under these conditions the stimulants mentioned could but raise the ratio of the uric-acid output. While enhancing leucocytogenesis, they would simultaneously increase the oxidizing powers of the organism, thus relegating leucocytosis to the position of an index of the increased activity induced.

This normally suggests a deduction which bears directly upon, and is sustained by, clinical work: *i.e.*, the fact that the morbid phenomena attributed to the so-called "uric-acid diathesis" are *due to unoxidized alloxuric bases*. This is supported by Dr. Taylor's second test. While in perfect health, he began a diet of sweet-breads, one pair three times daily, with bread and proteid vegetables. His strong organism stood this three days; the symptoms mentioned then came on,—including diarrhoea, anorexia, nausea, headache, and malaise,—which lasted the three remaining days, during which *the uric-acid ratio fell to less than one-third* of that obtained during the half of this test. Interesting also is his remark: "The symptoms closely resembled those noted in experimental *adenin* poisoning," inasmuch as adenin is one of the alloxuric bodies. But why, in view of this fact, was the "coffee" period, which also shows an average ratio of uric-acid elimination twice that of the "normal-diet" period, not attended with similar morbid symptoms? It seems clear that it is because it activated not only the metabolism of the nucleins ingested, but also that of decomposition products incident upon the excessive leucocytogenesis which the experimenter—unaccustomed to the use of stimulating beverages—had started in his organism.

These observations are in accord with the teachings of clinical experience. It is evident, if the unoxidized alloxuric bodies *are* the source of the symptoms attributed to the "uric-acid diathesis," that to suddenly place an adynamic patient—as are most migrainous and gouty subjects—under a debilitating diet is to further weaken his oxidizing powers. This does not mean that dietetic measures should not be instituted,—indeed, these are of the first importance,—but that the aim

should be to so regulate the proportion of nucleins ingested by the patient as to adjust the intake to his oxidizing powers, while enhancing the latter by the administration of appropriate remedies.

The list of foods capable of supplying the organism with an excess of nucleins is gradually becoming better defined. Prof. Albert Robin¹ recently reviewed this subject in an interesting manner. To the list already given herein—sweetbreads, brains, liver, kidneys, spleen, etc.—he added all animal foods—such as calf's feet, pigs' feet, tendons,—all foods capable of producing gelatin on boiling; the meats of *young* animals,—veal, lamb, for instance,—that are very rich in connective-tissue elements; spring chicken, squabs, etc.,—the very delicacies that are usually dealt out to convalescents! The historical treatment of Prince Bismarck by Professor Schweningen was based upon these simple precepts, which more modern scientific research sustain. Dr. Taylor also remarks in this connection: "Obviously the current use of sweetbreads during convalescence from acute gout as a 'light, white meat' is not founded upon a knowledge of its properties." Professor Robin, however, includes coffee among the pernicious beverages, caffeine being a dimethyl-xanthin, an intermediary between xanthin and uric acid. May this proscription not be due to time-honored custom? At any rate, I have never found it necessary to deprive a patient accustomed to the *moderate* use of coffee,—“uric-acid” cases are often met with among sufferers from disorders of the respiratory system,—while in my own case abstention from its use is followed by the so-called “diathetic” symptoms. Beef, mutton, chicken, etc.,—in brief, the meat of adult animals, all poor in nucleo-albumins,—are recommended by Professor Robin as the result of large experience; he finds them to be particularly well borne when fruits containing a natural acid—grapes, lemons, oranges, etc.—are taken simultaneously. How accurately the use of adult meats recommended coincides with Dr. Taylor's third test is emphasized by a perusal of the chart.

As to the use of remedies, the foregoing analysis of the effects of coffee, in Dr. Taylor's eighth test, confirm, if the deductions are sound, what clinical evidence has shown: *i.e.*, that stimulants markedly enhance the oxidation processes. Combining the dietetic with medicinal treatment, therefore, the two seemingly different classes of cases most frequently met with, the migrainous anæmic woman and the high-liver, are susceptible to practically the same measures: In the former, abstention from nuclein foods *only*, a *liberal* diet, gradually increased doses of strychnine, and the free use of pure water; in the latter, abstention from nuclein foods *only*, a *normal* diet, gradually increased doses of strychnine, and the free use of pure water. In a small proportion of cases reduction of the use of meat to once a day or a few days' milk diet—without omitting the strychnine—may be necessary to rid the organism of accumulated waste-products, when the treatment is begun. Alcoholic beverages—whisky, brandy, champagne, sherry, etc.—are always harmful, since they tend to inhibit tissue-metabolism. Of course, this only refers to cases in which organic lesions—peripheral, hepatic, renal, etc.—have not yet occurred, since all such require more active measures.

¹ Revue de Thérapeutique Médico-Chirurgicale, January 15, 1902.

Crofton¹ states that "a uric-acid case should be treated as an anæmic case," and advises the employment of "measures employed to promote the oxygenation powers of the blood." He found the use of iron and inhalations of oxygen of great value. Referring to the use of oxygen in migraine, he says: "The benefits derived from the procedure are surprising and most gratifying, and the relief to the patient is almost instantaneous." Oxidation is evidently a strong factor in the process involved—a fact which suggests that our aim should be, in "uric-acid cases," *to adjust the intake of nucleins to the patient's oxidizing powers, while developing the latter by the judicious use of strychnine.* That this agent actively stimulates oxidation has been demonstrated by Kionka, Mosso, Obermeier, and other investigators, while its value as a respiratory stimulant has been especially emphasized by H. C. Wood,² who also considers it as "the best of all tonics in general functional atony."

C. E. DE M. SAJOUS.

Cyclopædia of Current literature.

ALCOHOL, THE HEREDITARY EFFECTS OF.

Professor Demms, of Stuttgart, Germany, gives the following record of the result of his observations of ten families of drinkers and ten temperate families for a period of twelve years:—

The 10 drinking families produced in those twelve years 57 children. Of these, 25 died in the first week of life, of weakness, of convulsive attacks, or of oedema of the brain and its membranes. Six of the children were idiots; 5 were stunted in size, and were of dwarfish growth; 5, when older, became epileptics; 1, a boy, had grave chorea, ending in idiocy; 5 had inherited diseases and deformities, such as chorea, hydrocephalus, harelip, and club-foot. Two of the epileptics mentioned became, by inheritance, drinkers. Only 10 of all these 57, or 17.5 per cent., showed during youth normal disposition and development of body and mind.

The 10 temperate families produced in twelve years 61 children. Of these, 5 died in early infancy of weakness; 4 in later years of childhood had curable

nervous affections; 2 only showed inherited nervous defects. The remaining 50, or fully 81 per cent., were normal in every way, developing well in body and mind.

The statistics of alcoholic heredity gathered by Legrain, of Paris, are especially interesting. Out of 814 children of alcoholics observed by him, 322, or 40 per cent., were degenerates. Seventeen per cent. of these were epileptic or hysterical. By adding 174 who had not strength to survive, but died of infantile weakness and debility, the percentage runs up to 61. Four per cent. showed distinct moral impurity. The number of children who became alcoholic is not given. J. M. French (*Medicine*, Jan., 1902).

ANGIOMATA.

Angiomata are very peculiar and remarkable structures. Apart from the big nævi and angiomata with surgical relations there are:—

1. The pin-point, capillary angioma, of which few skins lack examples. They

¹ *Loc. cit.*

² "Therapeutics: Principles and Practice," eleventh edition.

may be numerous, but they are rarely disfiguring. They appear and disappear.

2. The solid, nodular *nævus*, ranging from 1 to 4 or 5 millimeters in diameter, forming a definite little tumor, either sessile or pedunculated, and very common on the back.

3. The spider angioma, formed by (a) three or four dilated veins, which converge to and join a central vessel or (b) which unite at a central, bright-red nodule projecting a little beyond the skin. They are very common.

As examples may be found on the skin of nearly everybody, these three varieties may be regarded as almost normal structures.

When the punctiform or spider angiomas increase greatly in numbers they are very disfiguring. An individual spider angioma may increase in size, or they may become very numerous.

Angiomas have a curious relationship with affections of the liver. In cirrhosis, in cancer, in chronic jaundice from gall-stones, spider angiomas may appear on the face and other parts. They may be of the ordinary stellate variety, like the stars of Verheyen on the surface of the kidney, or the entire area of the star may become diffusely vascularized, so that there is a circular or ovoid territory of skin looking pink or purple, owing to the small dilated venules. A dozen or more of these may appear on the trunk, or even large ones may appear. And, last, in a few cases of disease of the liver large mat-like telangiectases or angioma involving an inch or two of skin, and looking like a very light birth-mark, but which had appeared during the illness, have been seen. The skin was not uniformly occupied with the blood-vessels, but they were abundant enough on the deeper layers apparently to give a deep change

in color and to form very striking objects. The dilated venules on the nose and the chaplet of dilated veins along the attachment of the diaphragm are not infrequently accompaniments of the spider angiomas in cases of disease of the liver.

The spider angioma has been recently seen to appear in the face in a case of catarrhal jaundice. Osler (*Johns Hopkins Hosp. Bull.*, Nov., 1901).

APPENDICITIS, SUBPHRENIC ABSCESES AFTER.

Among the 179 cases of subphrenic abscess collected by Maydl, 23 were secondary to appendicitis. Lang found 26 among 176 cases of right-sided subphrenic disease, and Sonnenburg observed 9 subphrenic abscesses among 600 cases of appendicitis. In 350 of the patients there was an abscess around the diseased appendix, and nine of these patients had right-sided subphrenic abscess ($2\frac{1}{2}$, per cent. of the abscess cases). Two patients have been personally operated upon for subphrenic abscess among 91 cases of appendicular disease that have occurred within the past year on the surgical service at Mount Sinai Hospital.

Subphrenic inflammatory processes secondary to disease of the vermiform appendix may occur in one of three ways:—

1. As a localization in the right or left subphrenic region of a general systemic infection,—the infectious agents being carried to the subphrenic region by the blood-current. Here the process is secondary to a generalized infection, and hence is not considered in this paper.

2. As a localized abscess-formation in the right or left subphrenic region, a part of a general purulent peritonitis

with foci of suppuration in various parts of the abdominal cavity. This variety is infrequent, as the patients generally die before encapsulation of the abscess can occur.

3. As a local process by direct extension, or through the lymph-channels, from disease in or around the vermiform appendix. This is the most frequent variety.

Several modes of onset are characteristic:—

(a) A few days after the acute symptoms of appendicitis have been relieved and the temperature has fallen to the normal, the patients begin to complain of pain in the lower part of the right chest, the temperature begins to rise, the area of liver-dullness is found to be somewhat enlarged, there are friction-sounds over the hepatic region, and tenderness in one or two intercostal spaces. There may be slight or well-marked jaundice. Within a few days the pain over the liver becomes less, while the signs of fluid become evident.

(b) Before the acute symptoms of appendicitis have entirely subsided, although the local symptoms are much improved, the daily temperatures begin to take on a remittent type, and the patients begin to lose flesh and strength rapidly. These patients look very ill from the beginning. They do not complain of much pain, although they may have tenderness in the lumbar region; the most marked symptom is the rapid loss of flesh and strength. No further physical signs may be discoverable until the bulging of the abscess in the lumbar region is found.

(c) After having recovered from the attack of appendicitis in a satisfactory manner, some of the patients never regain their former health. Without any change in the temperature, respiration,

or pulse, the patients complain of continual slight pain in the right chest. The pain persists for weeks or months; physical examination and aspiration of the right chest result negatively. The patients never look very ill. After a varying length of time, the presence of fluid under the diaphragm, and perhaps also in the pleural cavity, is discovered by means of physical examination and the aspirating needle. C. A. Elsberg (*Annals of Surgery*, Dec., 1901).

APPENDICITIS, THE CAUSE OF DIFFUSE PERITONITIS COMPLICATING.

Peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to the other portions of the peritoneum, changing a circumscribed into a general peritonitis. This can be prevented by prohibiting the use of every kind of food and cathartics by mouth, and by employing gastric lavage in every case in which there are remnants of food in the stomach or in the intestines above the ileo-cæcal valve, as indicated by the presence of nausea, vomiting, or meteorism. The patient can be supported by the use of concentrated, predigested food administered as enemata not oftener than once in four hours, and not in larger quantities than 4 ounces at a time.

This form of treatment, when instituted early, will change the most violent and dangerous form of acute perforative or gangrenous appendicitis into a comparatively harmless form.

Cases of perforative or gangrenous appendicitis with beginning general peritonitis can usually be carried through the acute attack safely with this method. In all cases of this class gastric lavage should be practiced in

order to prevent the absorption of decomposing material from the alimentary canal. In cases of doubtful diagnosis this form of treatment should always be employed. It will prevent a large proportion of the most troublesome complications and sequelæ of appendicitis, such as ventral hernia, fæcal fistulæ, extensive adhesions, etc.

The patient should be permitted to recover fully from his acute attack before an operation is performed, except in cases encountered within the first thirty-six hours after the beginning of an attack or in case of the formation of a superficial circumscribed abscess. It often requires but a small amount of any kind of food to change a harmless circumscribed into a dangerous diffuse peritonitis.

The treatment does not protect the patient against a subsequent attack. It does not contra-indicate the removal of a diseased appendix before the septic material has extended beyond this organ. It is indicated in all intra-abdominal conditions in which it is desirable to prevent the distribution of septic material by means of peristaltic motion. The laity should be taught to stop feeding and giving cathartics to patients suffering from intra-abdominal diseases. A. J. Ochsner (Amer. Surg. and Gynec., Jan., 1902).

ARTHRITIS, PNEUMOCOCCIC.

From an observation of a large number of cases of pneumonia it is concluded that the pneumococcus is capable of producing very serious lesions in other parts of the body than the lungs. Arthritis as a complication occurred in 7 patients out of 817 cases of pneumonia: equal to about 1 per cent. Of these 7 cases, 4 recovered and 3 died. In all 7 cases the pneumonia was right-

sided, and the joints affected were all on the right side. This was probably only a coincidence, although the fact is striking.

In some cases of pneumonia a slight redness and pain have been observed also in the shoulder-joint of the side affected, which has subsided with the crisis. The joint affection may either precede the lung symptoms or follow the crisis, or develop intercurrently. In Liverpool alcohol seems to decide in a great measure the severity of the attack and the prospect of recovery.

The only treatment is early evacuation of the pus if it can be reached. Nathan Raw (Brit. Med. Jour., Dec. 21, 1901).

BICYCLING: ITS INDICATIONS AND CONTRA-INDICATIONS.

As bicycling involves an extraordinary consumption of energy and is accompanied by relatively slight sensations of fatigue, its place in the treatment of obesity seems to be theoretically established. Bicycling also diminishes the quantity of sugar in the urine in diabetes. In slight degrees of anæmia bicycling is of advantage as a stimulus to metabolism; in severe cases this form of exercise makes such demands upon the heart that it is contra-indicated. The use of the bicycle favors assimilation in chronic obstipation. Many writers have noted happy results from the adoption of wheeling by neurasthenics. L. Zuntz (Fortschritte d. Med., Sept. 22, 1901; Cleveland Med. Gaz., Dec., 1901).

CARBOLIC-ACID POISONING, ALCOHOL AS AN ANTIDOTE IN.

Alcohol will prevent and remove the caustic and poisonous effects of carbolic acid.

The primary step in poisoning is to

wash the stomach out with alcohol; then whisky may be given hypodermically with the idea of neutralizing the acid in the blood. Other heart-stimulants may be required. As the acid is quite rapidly taken up into the blood, it has been suggested that no treatment is complete without bleeding, but that has not been done to any great extent.

Alcohol is the most perfect, the most certain, and the most handy antidote to carbolic acid. G. W. Sargent (Therap. Gaz., Dec. 15, 1901).

CONVULSIVE TIC.

Very many of these cases are habit cases, induced by some trivial local source of irritation or reflex influence not of central origin. In such, static electricity plays a double rôle, and is uniformly successful if applied early. (1) It lessens the irritability, and (2) acts as a powerful suggestive influence when systematically employed.

Most cases of central origin are not due to any traceable organic defect, but are induced by functional derangement. Such are capable of being cured if not of too long standing. For treatment, a metal electrode covering the affected muscles is applied and held in position with the hand, and the wave-current is employed with as long a spark-gap as can be used without causing painful muscular contractions. Sparks to the region will also render the results more effective in some cases. If the condition is suspected to be of central origin, a large electrode to the back or abdomen should be used, as in epilepsy, for an additional fifteen minutes for its general effect. Under this *régime* there are few cases of not more than two years' standing that will not yield. W. B. Snow (Jour. of Electrotherapeutics, Dec., 1901).

DIPHTHERIA ANTITOXIN IMMUNITY.

As diphtheria antitoxin is practically harmless, all exposed persons should receive an immunizing dose in proportion to age. Two hundred and fifty units should be given to children under two years, and 500 to all others. The immunity will last for at least three weeks, provided a reliable antitoxin is used.

All exposed persons should be removed from infected surroundings, either by thorough disinfection of their own quarters, or by removal to other quarters. If this be impossible, the immunizing doses should be repeated every third week. H. D. Jump (Phila. Med. Jour., Jan. 11, 1902).

DIPHTHERIA, POST-SCARLATINAL.

Conclusions from investigations regarding post-scarlatinal diphtheria: 1. That it is advisable to cultivate all cases of rhinorrhœa—apart from that of the acute stage—and otorrhœas in scarlet-fever cases, especially in hospital practice. 2. That bacilli, when found at all resembling the diphtheria bacillus, must, in the present stage of bacteriological knowledge, be regarded as a modified variety of that organism, bearing in mind that their staining properties are often the only means of diagnosis available, the clinical symptoms in this class of cases being, for the most part, absent. 3. That systematic isolation of these rhinorrhœas and otorrhœas is not only justified, but advisable. 4. That such isolation may be reasonably expected to reduce the post-scarlatinal diphtheria incidence. 5. That it is an open question whether such mild cases require antitoxin treatment. Even assuming that many of these cases unassociated with general symptoms have not the disease themselves, but have

had the bacillus simply grafted on to an ordinary coryza or cold, or on to an existing rhinorrhœa or otorrhœa, none the less it is highly important that they should at least be separated from the healthy. Similarly the otherwise healthy subjects of nose or ear discharge containing diphtheria bacilli may reasonably be held to be pathogenic to others. 6. That these discharges, unassociated with sore throats or symptoms, and therefore easily overlooked, may be the cause of the often unaccountable outbreaks, and the persistence of the disease among school-children. E. H. Williams (*Brit. Med. Jour.*, Dec. 21, 1901).

DUODENAL ULCER.

The medical treatment of duodenal ulcer should be carried out with the same persistence and care as are needed in treating ulcers of the stomach. Surgical treatment may be called for: (1) when an acute ulcer perforates, (2) when subacute or chronic perforation leads to periduodenal or subphrenic abscesses, (3) in chronic ulcer when pain and gastrorrhagia or enterorrhagia are persistent and disabling, and (4) when cicatricial contraction and induration or periduodenitis have caused narrowing of the caliber of the gut and dilatation of the stomach or of the stomach and that part of the duodenum behind the stricture. B. G. A. Moynihan (*Lancet*, Dec. 14, 1901).

FRACTURED PELVIS, WITH RUPTURED BLADDER, AND CASES OF RUPTURED URETHRA.

The principles which should guide one in the treatment of these severe injuries are that, if the symptoms point to an injury to the bladder in the anterior wall, an attempt should be made

to close the rent in this situation in the same way that wounds of the posterior wall are closed. Owing, however, to difficulties connected with the position of the wound, if at all low down, this may be impossible, in which case—and, indeed, in any case—it is essential to prevent extravasation and to drain the bladder by a perineal route. This is best done by a tube passed through the internal meatus and out at the situation of the urethral rupture, if such exist. In case the condition of the patient will allow of a further attempt to restore the urethral canal by suture after perineal dissection, then the perineal tube should be brought out, if possible, through an incision in the floor of the membranous urethra behind or on the bladder-side of the line of suture. If this can be done satisfactorily, it is better not to leave a catheter along the whole urethral route. If the conditions will not allow of the suturing of the torn urethra at the time, then the perineal tube must be brought out through the open or torn end of the proximal urethra, and this perineal opening may be utilized at a later stage for the readier passage of a catheter along the penile urethra into the bladder. Further, careful and efficient provision should be made for the drainage of the prevesical space and surrounding area in view of the probable subsequent leakage of urine. If necessary, tubes should be brought out under one or both pubic rami at the perineum by cutting on a sound passed down from the suprapubic incision. In the possible event of failure to maintain complete asepsis and if subsequent suppuration follow, it may be necessary to open abscesses in the buttocks and in various situations.

In some cases of ruptured urethra by direct violence without fracture of the

pelvis it sometimes happens that, owing to extravasation of urine and suppuration, from delay in treatment, it is impossible to deal with the rupture by suture at the time of the patient's admission into the hospital. In such a case, after the immediate relief of the extravasation and its results by free incision and the perineal drainage of the bladder, the difficulty of the wide separation of the torn ends may be lessened later by a free detachment of the distal spongy portion, together with the supporting corpora cavernosa from the front of the pubes and the partial separation of the suspensory ligament of the penis. In this way the distal ruptured end of the urethra may be brought down from one to two and a half inches, and the union of the two ends may be successfully accomplished. This liberation of the urethra with its supporting corpora cavernosa, as a whole, is easily and quickly done, and is far preferable to trying to detach the distal spongy urethra from its supporting structures, and will probably give that amount of increased apposition and relief of tension which may insure satisfactory union, and, if any difficulty occurs in bringing the ends of the urethra together, this maneuver should be done at once. C. J. Bond (Lancet, Nov. 23, 1901).

HÆMATURIA, GELATIN IN.

An ounce of normal saline solution to which 2 per cent. of pure gelatin is added and given subcutaneously, together with the internal administration of 1 drachm of a 10-per-cent. gelatin solution, has been very effective in relieving a personal case of hæmaturia in a young woman 25 years of age. Where a nephritis exists, the internal administration of the 10-per-cent. solution should be avoided, as hæmoglobinuria

is increased and renal casts appear in large numbers, and danger of uræmia is induced by such large doses.

But, when given subcutaneously with an interval of twelve or twenty-four hours, the hæmorrhage from the kidneys or nose stops immediately.

Some patients suffer considerable pain from these injections, while others do not. No abscesses have resulted, because the solutions were rendered aseptic and the injections were given under careful antiseptic precautions. George Duffield (Harper Hospital Bull., Dec., 1901).

HEART, SUBACUTE DILATATION OF.

In subacute dilatation of neurotic or anæmic young people, where baths and exercises are not available, nutrients—like malt, iron, quinine, and the alkaloids of *nux vomica*—may check the dilatation and restore the heart's tone. In general, strychnine or brucine, in $\frac{1}{60}$ to $\frac{1}{30}$ grain doses are good nerve-tonics, but, as they contract both heart and arterioles, are undesirable for continuous use. T. E. Satterthwaite (Medical News, Dec. 28, 1901).

HERNIA EPIGASTRICA AND FATTY TUMORS IN THE EPIGASTRIUM.

At one or more points the abdominal wall becomes weakened and less able to withstand increased abdominal pressure. The points generally correspond to the site of passage of vessels through the anterior sheath of the rectus muscle or the immediate vicinity of the linea alba. Prolonged tension and atrophy of tissue in these areas furnish small openings in this sheath through which a small portion of properitoneal fat is forced. This is a slow process, but when once established it tends to progress until a small mass of fat has appeared external to the aponeurosis. There may or may not be

a portion of peritoneum pulled forward by the fibrous tissue which connects the fat and peritoneum. Thus, one has the formation of a fatty tumor which has many of the characteristics of a hernia, and may be the forerunner of such a condition. Such a tumor may be reduced through the ring, or this external mass of fat may be augmented and connected with deeper fat only by a narrow neck, and thus become irreducible. The size of these tumors varies, but they are usually small. It is probable that properitoneal fat is of much importance in the formation of herniæ in part of the abdominal wall. These tumors are probably constant when once formed. They may remain unchanged, or may aid in the formation of a true hernia.

It is probable that most epigastric herniæ are preceded by a condition which, at one time, could be considered only as a fatty tumor, such as has just been described. In time this mass may pull forward a pocket of peritoneum into which omentum may enter, or an increased abdominal pressure may serve to increase this depression. Thus, omentum, and eventually intestine, may be forced through the abdominal wall, and true hernia formed thereby. Original depressions, or pockets, in the peritoneum are not sufficient to give rise to hernia. The essential feature is a giving way of muscles and fasciæ of the abdominal walls. The mass of properitoneal fat covering such a hernia may be slight or considerable.

If one is on the lookout for these cases in the course of an examination, they will usually be discovered. This condition should be thought of in all cases where the symptoms, whether subjective or objective, are referred to the stomach or intestines, or to a tumor of any sort in the epigastrium. The conditions

which might arise for differential diagnosis whenever symptoms are referred to this region are: All diseases of the stomach; pain referred to the epigastrium and vicinity as suggesting, furthermore, biliary calculus, inflammation of the gall-bladder, renal calculus, ulcers of the duodenum, diseases of pancreas. Tumors in this vicinity should suggest fatty tumors limited to the subcutaneous tissue and tumors in the vicinity of the umbilicus, such as gumma, carcinoma, sarcoma, cysts of urachus, hydatid cysts, dermoid cysts, and fibroma associated with the terminations of nerves. Caries of the lower end of the sternum or intercostal cartilages may be attended by small pus-collections which resemble these herniæ.

If the hernia causes no trouble, no treatment is indicated, for it may never be the source of any annoyance. If symptoms are present, operation offers the only means of certain relief, and this measure should be suggested, provided there are no complications which would contra-indicate surgical intervention. Trusses and swathes do not retain the herniæ satisfactorily after reduction, and such treatment only aggravates the condition where the tumor is irreducible. In extreme cases of local pain without objective signs, where a hernia is suspected, an exploratory operation is justified. It is very important to free the omentum from all adhesions. Recurrence is unusual. H. A. Lothrop (Boston Med. & Surg. Jour., Dec. 5, 1901).

HYDROCELE IN INFANTS.

In the treatment of hydrocele in infants a lotion of ammonium muriate, 10 grains to 1 ounce of water, should be applied constantly to the scrotum on lint, and under its use the fluid may disap-

pear in a week or two. If, however, it does not disappear, then the distended tunica vaginalis should be tapped with the trocar and cannula and the fluid removed, the tapping being repeated if it becomes filled up again. This usually brings about a cure of the disease, but, if this should fail after tapping, a few drops of tincture of iodine, carbolic acid, or alcohol may be injected. Radical operations, such as dissecting out a portion of the sac, are rarely required in the treatment of hydrocele in infants or children. H. R. Wharton (*Amer. Jour. of the Med. Sciences*, Jan., 1902).

INSECTS IN THE SPREAD OF DISEASE.

When one comes to consider how insects may aid the dissemination of disease, these possibilities present themselves:—

1. Insects may carry from place to place disease-producing micro-organisms which have collected upon their bodies and limbs, and occasion infection directly by alighting upon wounds, and indirectly by alighting upon foodstuffs. It is very likely the common house-fly that is most culpable in this direction.

2. Insects may carry within their bodies germs of disease which have entered with the food, and which may subsequently be deposited elsewhere with the fæces. This has been demonstrated in connection with tuberculosis, where tubercle bacilli, live and virulent, have been detected in the fæces of flies that have been fed upon tuberculous sputum. Such infected faecal matter, being deposited where it directly or indirectly infects the individual, becomes a matter of evident importance.

3. Suctorial insects, by taking blood containing parasites from the bodies of diseased animals, may carry these upon

their proboscides into the next animal bitten, directly and immediately infecting it.

Many cases of anthrax have apparently been brought about by suctorial flies. It has also been repeatedly stated that plague may be propagated by such direct infection from the bites of fleas. In certain parasitic diseases it has been clearly demonstrated that the bites of insects are accompanied by direct infection.

4. Insects may take infectious germs into their bodies and transmit them to their offspring, whose bites are infectious. The disease in which this is best seen is the Texas fever of cattle.

5. Insects may take into their bodies parasitic organisms which there undergo a further development, the insect acting either as an intermediate or a definite host, and transmitting the parasites to other animals in some changed form in which they are infective. As illustrating this form of parasitic disease, the malarial infections of mammals and birds stand pre-eminent.

A second important affection in which the mosquito appears to play the part of a definite host is yellow fever.

A third disease in the transmission of which insects are concerned is filariasis.

6. The insects may become infected with pathogenic organisms, die, fall into foodstuffs, and thus impart infection to man.

The probability of this being an important source of infection is not great, as such accidents are rare. When one remembers, however, that Yersin and Nuttall have found that flies become infected with plague and die of the disease, the danger that might lurk in such an insect cadaver need not be magnified. Joseph McFarland (*Medicine*, Jan., 1902).

JAUNDICE, SURGICAL SIGNIFICANCE OF.

Jaundice is not to be expected in uncomplicated gall-stone disease. When due to a stone obstructing the common duct it gives the history of previous attacks of gall-stone colics, varies greatly in intensity in the early stage, and these changes are accompanied by colicky pains. There can usually be obtained an early history of some little fever, and at times chilly sensation or sweats. The gall-bladder cannot be palpated. In malignant disease the loss of flesh before the jaundice, the age of the patient, and the unchanging (except for the worse) of the icteric hue, with a distended and, perhaps, nodular gall-bladder or adjacent tumor, complete the clinical picture. Jaundice from chronic pancreatitis will probably be confused with malignant disease. The possibility of its existence leads to an examination as to the history, the age of the patient, and the duration of the symptoms. The various forms of cirrhosis accompanied by jaundice are to be distinguished by the physical examination of the liver, and, occasionally, the size of the spleen. Catarrhal jaundice is a disease most common in young adults, and is usually due to an extension of a mild infection from the gastro-intestinal tract. It is sometimes seen in an epidemic form. The age of the patient, slow pulse, lack of general symptoms, and short duration make the differentiation easy. Catarrhal jaundice may, in isolated cases, complicate appendicitis, pneumonia, cancer of the stomach, and a host of other common diseases; but, as in these cases it is usually incomplete and transient, it does not long mask the primary source of disease. W. J. Mayo (Northwestern Lancet, Jan. 1, 1902).

KIDNEY, A NEW METHOD OF ANCHORING THE.

The incision extends from the lower rib to near the crest of the ilium, a hand's breadth to the right of the spinous processes of the vertebrae. The fatty capsule is reached just anterior to the outer border of the quadratus lumborum, and is opened and a large part of it trimmed away. The kidney is pushed into place by a cylindrical pad placed under the abdomen. When the kidney is well exposed, an incision is made through the proper capsule from one process below the upper pole to a point two centimeters above the lower pole. This incision is placed vertically on the posterior surface near the convex border. The capsule is stripped loose from the kidney-substance from a distance of three-fourths of an inch anteriorly and posteriorly to the incision of the capsule. From the upper and lower extremities of the vertical incision a perpendicular incision three-fourths of an inch long is made through the capsule, this giving two flaps of capsule three-fourths of an inch wide by about two and one-half inches long. Next, a strip, the thickness of one's little finger, of the other border of the quadratus lumborum muscle is split off from the remainder of the muscle, the fibers being separated by the handle of the scalpel. This separation extends from the muscular attachment to the twelfth rib downward for two and one-half inches, or the slit in the muscle is made as long as the length of the capsular flaps before described. Next, an artery-forceps is passed through the slit in the muscle, made to grasp the free border of the posterior flap of the kidney-capsule, and then withdrawn, bringing the flap of the kidney-capsule through the slit in the muscle. The

two capsular flaps are next brought together over the bundle of muscular fibers, thus isolated from the border of the quadratus lumborum, and stitched together with a running suture of fine chromicized catgut, the needle being allowed to penetrate the muscular bundle at two or three places. The lumbar wound is next closed by tier sutures of catgut, the skin wound being closed with horse-hair. B. G. Davis (Amer. Medicine, Jan. 11, 1902).

LARYNGITIS, ACUTE.

In acute laryngitis, without œdema, inhalations of steam containing camphor-menthol will often in the early stages aid considerably in aborting an attack, while, after the disease has existed for a day or so, the addition of benzoin will aid in allaying the cough and irritation. When œdema is present, hot inhalations are of little value, and frequently increase the extent of the swelling, while an iced spray of $\frac{1}{2}$ - to 1-per-cent. camphor-menthol, alternating every half-hour, or even fifteen minutes in cases where the dyspnoea is severe, with a spray of the suprarenal gland, will produce a rapid change in the appearance of the laryngeal swelling and frequently relieve the dangerous symptoms. L. S. Somers (Merck's Archives, Dec., 1901).

LEUKÆMIA, LYMPHATIC, APPARENTLY DEVELOPING OUT OF HODGKIN'S DISEASE.

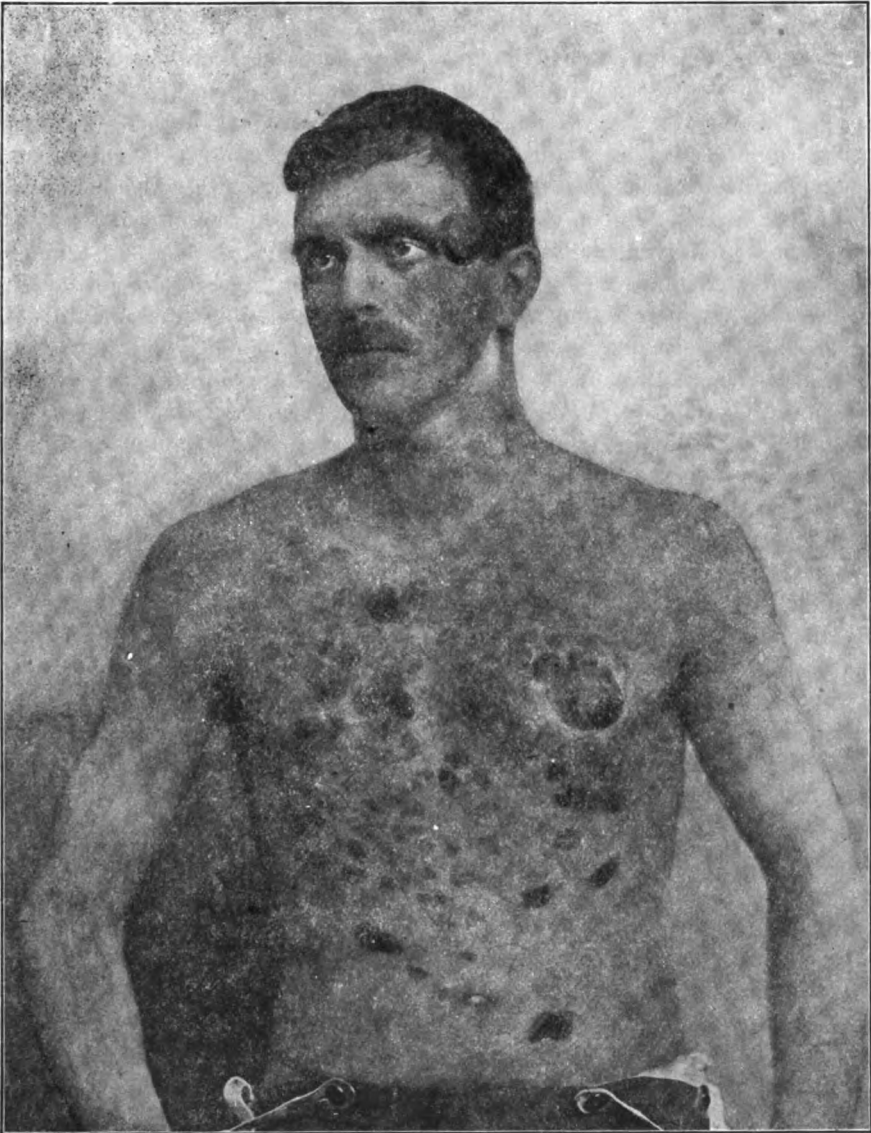
The illustration of the case was taken but a few days prior to the clinical record. It fairly demonstrates the topography of the multiple formations. The general tint of the skin was ruddy, as though sun-burned, while the areas upon the chest were as brown as burnt sienna. The initial lesion, situated on

the left side of the face, occupying the upper part of the temporal, the lower part of the frontal, and the exterior half of the supra-orbital regions, formed an oval protuberance, with its long diameter extending from a point beneath the eyebrow to a point beyond the hairy portion of the scalp, where the individual hairs were raised like the spines of a porcupine. Its greatest length was nine, and its greatest width ten, centimeters. It was non-adherent beneath, sliding readily with the skin; the border was well defined, and its dusky hue was without transition or the slightest erythematous tint, which was in keen contrast with the normal epidermis. The whole growth was hard and elevated above the contiguous skin. The entire surface was not only distinguished by its cyanotic tinge, but by numerous vibices: some in streaks, others cruciform. In the profile of the right eyebrow were two definite nodules, about the size of a pea, freely movable, and in keeping with the normal color of the skin.

The center of the left cheek bore a deep-seated infiltration three and one-half to four centimeters in diameter, presenting an unaltered hue, except at the center, which bore a tawny shade. The face lesions were four in number; the scalp was in nowise involved. Seated upon the body over the sternum were two lesions, each measuring ten to twelve millimeters. The whole chest and back were mottled, showing numerous, well-defined pigmentary stains, and variegated blotches of different shapes and sizes. These differed in size from a pea to a twenty-five-cent piece, and in some localities coalesced. They usually presented a circular form. This was especially true of the large ones; the smaller were frequently misshapen,

sometimes grotesque. The prevailing color was a chocolate yellow. Barring the discolorations, the epidermis was

preciable increase were two anterior to the left ear, just above the parotid. The post-auricular of the left side was



Lymphatic Leukæmia. (*G. W. Wende.*)

(*American Journal of the Medical Sciences*, December, 1901.)

seemingly normal. There was a decided hypertrophy of all the prominent superficial glands. The first to show any ap-

the size of a hazel-nut, and very sensitive. The post-cervical soon assumed the dimensions of a black walnut, but

was not specially sensitive. The entire cervical group and the submaxillary glands were so enlarged as to be palpable. The glands of the trunk, with the exception of the epitrochlear and inguinal, were more or less involved, and possessed uniform sensitiveness. The left axillary was the largest, the size of a walnut. On the whole, this hypertrophy of adenoid tissue was greater about the head and neck than upon the trunk, and less upon the lower extremity. The magnitude of the glands of the right side was not more than one-half that of those on the left side. G. W. Wende (*Amer. Jour. of the Med. Sciences*, Dec., 1901).

LOCOMOTOR ATAXIA.

This disease should be recognized in the pre-ataxic stage. When the patients are seen in the beginning, rheumatism is often mistaken for it. One sign which is not pathognomonic, but simply an aid in diagnosis, is ulnar analgesia, noted by rubbing the ulnar nerve in the ulnar notch. Along with the ulnar analgesia is very frequently found marked diminution in pain-sense throughout the whole territory. Fraenkel's sign is also an aid in diagnosis. If the thigh is extended at right angles to the body, the leg can be brought up in a perfectly straight line. The usual angle that the leg makes in that position is not manifest; the muscles are in an hypnotic condition. In other words, there is a lack of muscular tone.

In very many of these cases there is an exaggeration of the abdominal reflex. D. R. Brower (*Interstate Med. Jour.*, Aug., 1901).

The ocular symptoms are personally believed to be the earliest symptoms of the disease. They are: (1) strabismus, or squint; (2) ptosis, or drooping of the

eyelid; (3) the fixed pupil (Argyll-Robertson pupil); (4) inequality of the pupils; (5) optic atrophy.

1. The strabismus often comes on suddenly. It is very likely to be temporary. It may last but a few days or weeks, and may recover as suddenly as it came on. It may produce double vision. Any of the muscles may be paralyzed; therefore the squint may be in any direction. Although usually temporary, the squint may be permanent.

2. Ptosis. The ptosis of tabes may be single or double; generally it is single, only one lid drooping. The ptosis, like the squint, may be temporary or permanent.

3. The fixed, or immobile, pupil. On looking at the pupils, no abnormality may be observed. Upon covering them with the hands, however, they do not dilate, nor on exposing them to a bright light do they contract. They are fixed—immovable. (The do diminish in size, however, on convergence; this is the Argyll-Robertson pupil.)

4. Another pupillary symptom is seen in tabes, namely: inequality. This is generally due to the contraction of one pupil. The vast majority of tabetic patients have one or other of these pupillary symptoms. Berger claims that 97 per cent. of cases of locomotor ataxia show some pupillary symptom.

5. Optic atrophy. This produces more or less failure of sight. The atrophy is "gray," and it is "primary." The retinal vessels are not affected in size.

A patient, in adult life, consults his physician for a suddenly-appearing squint, or ptosis, or for an optic atrophy, and he may have had no pains or other noticeable symptom of tabes. If no cause is discovered for these eye-symp-

toms, one is certainly justified in suspecting locomotor ataxia.

Neurologists and ophthalmologists the world over are insisting more and more upon the importance of these ocular symptoms as being among the earliest indications of the disease. J. T. Duncan (*Canadian Practitioner and Review*, Sept., 1901).

First the general health of the patient should be brought up to its maximum degree of improvement. This is accomplished by absolute rest in bed, combined with massage, electricity, tonics, and overfeeding. Later, after the patient has gotten about, special exercises designed to re-educate the muscles are prescribed, the patient following, at the same time, a partial-rest schedule.

A lukewarm to a warm bath is given in the morning before breakfast, followed first by a brisk rub with coarse towels, and then a gentle superficial massage with 50-per-cent. alcohol. The bath should be given by an assistant, and a reaction should be certainly established. When the bath is taken unassisted, it is apt more often to do harm than good. Any exercise before breakfast, soon after awakening, has always an injurious effect, even among robust subjects. Massage is ordered once or twice a day. General heavy movements should be used, with especial attention to the back and legs. In most cases who can afford it, the slowly interrupted faradic current to the principal motor points for an hour is advised. No educational or Swedish movements are given for some time. The average patient should be given a month of rest before instituting this part of the treatment.

The diet consists of the usual nourishing foods. Large quantities of milk

are ordered, and the patient is encouraged to eat abundantly in the hope to put on weight.

The blood is to be studied carefully before instituting treatment, and often during its progress; one can thus more intelligently follow the improvement made.

The time spent in bed varies according to the rapidity with which the patient takes on fat. It is best to increase the weight at least ten pounds if possible before relaxing the absolute rest. At the end of a month or six weeks the patient is permitted to get up very gradually, and by degrees he is permitted to remain up longer, increasing the time from day to day. Fraenkel advises against any form of gymnastics during the treatment.

The educational movements are now begun. This phase of the treatment has for its object the improvement of the inco-ordination, and is based upon a plan of re-educating the muscles. This is accomplished by practicing repeatedly certain movements, which are graduated from simple to complicated.

It was Fraenkel who, in 1890, first described this new method. While acknowledging the great benefit of baths in the treatment of ataxics, Fraenkel advises against combining them with this treatment.

Improvement goes on from the first.

The exercises should be done two and three times daily, and it is preferable that the physician should be present, certainly at first, and especially when the fatigue-sense is lowered. The results are permanent if the general health remains good and the exercises are persisted in.

It is very important to see that the digestive functions are properly attended to. Torpid liver alone in a great

many cases causes outbreaks of the lancinating pains.

The spasmodic cough yields, though not always, to combinations of antipyrin or acetanilid, cannabis Indica, and codeine. When it is very intense and prolonged, amyl-nitrite and morphine alone are effective.

It is very important to be sure that there is no residual urine in the bladder in those cases suffering from incontinence or retention. The bladder should be frequently catheterized and washed if there is indication of cystitis.

In the pains of the ataxic, a hot bath, followed by wrapping the affected parts in warm blankets, is very effective, associated in more persistent cases, with such a combination as advised above for the spasmodic cough. J. W. Rhein (Therap. Gazette, Dec. 15, 1901).

LYMPHADENOMA, FEVER IN.

The following case of lymphadenoma with recurrent fever occurred in University College Hospital, London. The patient was admitted to the hospital with a mass of enlarged glands on the left side of the neck, lying underneath and on either side of the sterno-mastoid muscle, and reaching from the ear to the clavicle. All the characters of lymphadenomatous glandular invasion were present. The glands were freely movable, being in the earlier stages free from attachment to one another or to the skin; as a rule, they were not tender, but one or two near the clavicle showed some tenderness, were softer than the others, and the skin in the neighborhood was distinctly red. The blood-examination revealed nothing abnormal beyond the fact that there was an increase in the total leucocytes (16,000 per cubic millimeter); the relative proportion of the various leucocytes

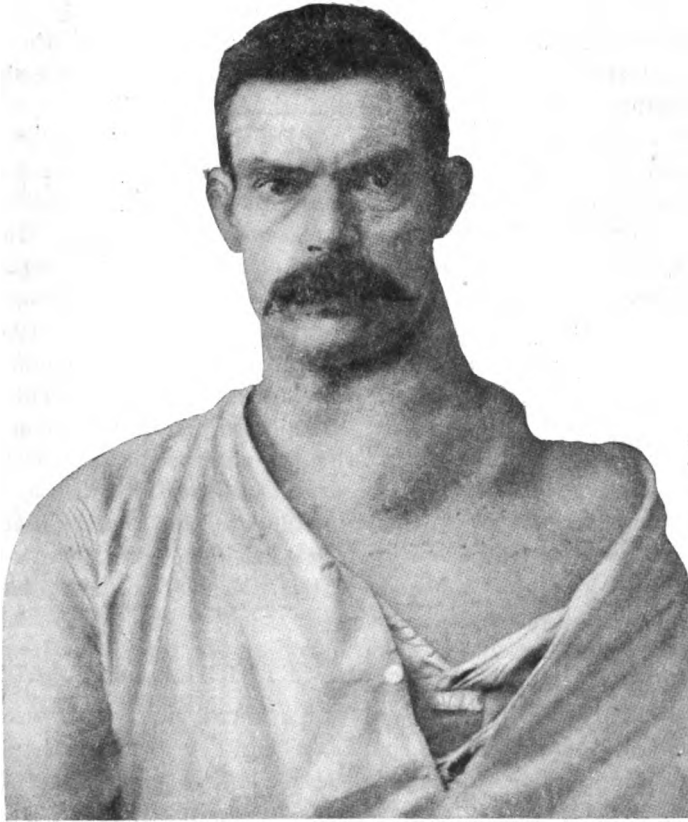
was normal. Shortly after admission the temperature rose, reaching a height of 102° F.; the girth of the neck increased, and the tenderness of the glandular swellings was intensified. A number of glands were then removed. No suppuration was found in any of the glands, though yellow-white areas were seen, showing a tendency to caseation. The wound healed quite normally, and the patient was discharged much relieved. A little more than two months later the patient was again admitted with the history that, since his last visit to the hospital, he had had seven attacks of fever, in which he shivered, vomited, and had occasionally some diarrhoea. In the intervals between the attacks the glands in the neck shrank so that he could easily button the collar of his commissioner's tunic; during the attacks this was quite impossible. The spleen was now found to be enlarged, and there was swelling of the left arm. On June 1st the temperature gradually rose, reaching 104.6° F. on the 4th of the same month, and then gradually subsided, reaching normal on the ninth day from the onset of fever. A similar attack occurred between June 19th and 29th. On both occasions there was a measurable increase in the girth of the neck. Toward the latter part of July another slight rise took place, having much the same accompaniments as in the former attacks. The patient then left the hospital, returning again in October very much wasted, with increased glandular enlargement on the right and left sides of the neck in both axillæ and groins, and signs were present of involvement of the mediastinal and retroperitoneal glands. Blood-examination showed about 80 per cent. of the normal red blood-corpuscles and 55 per cent. of hæmoglobin; there was also

an increase in the leucocytes. The temperature was raised, but reached the normal in about nine days. A fourth and much more protracted period of pyrexia commenced on November 2d, and lasted to the 22d of the month, death following shortly after.

At the autopsy the enlarged glands

lymphadenomatous masses, as large as pease, were found in the liver. No evidence of the malarial parasite had been found in the blood during the periodic fever.

Consideration of seventeen cases impresses the view that "lymphadenoma with recurrent fever" is not a special



Fever in Lymphadenoma. (*H. Batty Shaw.*)

(*Edinburgh Medical Journal*, December, 1901.)

in some places were adherent to one another; the spleen was greatly enlarged, and showed the "hard-bake" deposits met with in lymphadenoma. In no case was suppuration met with in any of the glandular masses. The glands on section revealed the characters met with in lymphadenoma. A few

form of disease; that such cases are due to a terminal infection occurring any time during the last year of life of some patients affected with lymphadenoma; that the nature of the bacterial invasion is different in different cases, and that in some cases proof of a bacterial invasion is wanting; that, in a consider-

able number of cases of lymphadenoma with recurrent fever, there is a great constitutional disturbance, with elevation of temperature, rigors, vomiting, diarrhœa, anorexia, and malaise; that in some cases urobilinuria is a marked symptom; that in some of the cases the superficial lymphatic glands, and even the spleen, become very tender and enlarged during the attacks; and that the skin over the enlarged glands may become reddened and show increase of local temperature. Finally, that the prognosis in such cases is, as a rule, hopeless, and that the duration of life, after the onset of the periodic attacks of fever, averages about seven and a half months, but may be as much as twelve or fourteen months. H. Batty Shaw (Edinburgh Med. Jour., Dec., 1901).

MALARIAL DISEASE, PREVENTION OF.

Attention to the following simple rules will usually suffice to prevent malarial infection:—

1. Avoidance of fatigue and excesses of all kinds. Judicious, liberal diet. The use of alcoholic beverages in small quantities, particularly in warm countries; spices and condiments in small quantities; coffee, on account of its tonic properties.

2. The drinking-water should be boiled and filtered carefully unless its purity is unquestionable.

3. Avoidance of exposure at night, which is the time the *Anopheles* usually bite. The protection of the dwelling-house from mosquitoes by the use of fine wire or other screens. The destruction of those mosquitoes which have gained entrance into the house. The screening of beds at night.

4. The destruction of mosquitoes by the draining of stagnant holes, pools, drains, and other breeding-places, and the destruction of the larvæ by the use of petroleum thrown on the surface of those pools which cannot be drained. One ounce of petroleum to 15 square feet will destroy the larvæ, and continue to prevent their development from two to four weeks.

5. The isolation of the malarial patient from the *Anopheles*, should it exist in the same locality.

Even without the auxiliary action of quinine, the system carries on a more or less successful warfare against the plasmodium of malaria. In this combat the leucocytes appear to play an important rôle. Those suffering from debilitating diseases are usually more susceptible, and are wont to suffer from many relapses. Tonic treatment is, therefore, indicated, and iron in some form should be administered.

Sometimes it will be necessary to stimulate the hepatic function by the use of cholagogues. C. C. Beling (New York Med. Jour., Dec. 7, 1901).

METRORRHAGIA AT THE EXTREMES OF LIFE.

There is a metrorrhagia in young girls due to glandular and interstitial endometritis, which, if neglected, may seriously impair their health; it is curable by curettement (perhaps repeated) and by the removal of any cause of pelvic congestion that may be present. There is a metrorrhagia in old women years after the menopause not due to malignant disease (which ought always to be suspected), but to a corporeal or cervical polyp and an accompanying endometritis. B. C. Hirst (Therap. Gazette, Dec. 15, 1901).

MICTURITION, INVOLUNTARY, IN CHILDREN.

One of the first steps should be to correct any condition of malassimilation or debility which may exist. Sources of local irritation having been excluded, the condition should be treated as a pure neurosis. One of the best remedies is the daily injection of full doses of sulphate of strychnine in the lumbar region.

In cases of involuntary micturition dependent upon chorea the usual measures for the correction of that condition should be adopted: cold bathing, massage, codliver-oil, arsenic, and antispasmodics. Such remedies as the bromides, valerian, asafoetida, and camphor are of special service. A remedy which has proved of special service in the forms of enuresis due to hyperæsthesia of the vesical neck is tincture of cantharides in minute doses. Where hyperacidity of urine exists, this may be combined with acetate or citrate of potassium or lithium. The lithium salts are of special value where there is a gouty or rheumatic diathesis. The salicylates also come into play here. Such tonics as the mineral acids, quinine, and iron, with a liberal dietary of fat, and perhaps the administration of codliver-oil are demanded in many cases in which malnutrition is a prominent factor. Ergot is very often useful. A very valuable remedy in purely neurotic cases, and especially in those accompanying chorea, is santonin in full doses: this independently of the existence of intestinal worms. In cases of phosphaturia a diet of proteids with the administration of mineral acids has a much more limited range of value than authorities on therapeutics seem to believe. While it does act favorably, it is in many cases of only temporary benefit.

Where the involuntary micturition is due to the irritation of saccharine urine, as in diabetes mellitus, or the rapid entrance of urine of low specific gravity into the bladder, as in diabetes insipidus, the primary condition demands correction. Urine of extremely low specific gravity and consequent non-irritating character is often not so well tolerated by the bladder as is a more concentrated and consequently more irritating urine. The reason for this seems to be the fact that in cases of diabetes insipidus and allied conditions the urine is secreted so rapidly that the bladder does not have time to accommodate itself to its contents.

In by far the majority of instances local treatment is required, and its neglect is the explanation of frequent failures in the management of this condition. The necessity for local treatment in cases of involuntary micturition due to an irritated condition of the genito-urinary tract is obvious; thus, an operation for stone, the application of silver to the vesical neck, or surgical intervention for the relief of diseased kidneys may be necessary.

The urethral sound is one of the most valuable measures for the treatment of a large proportion of cases of involuntary micturition in children. All sources of reflex irritation should be relieved; the prepuce, if phimosed and redundant, removed; and all adhesions separated. The meatus, if narrow, should be cut. Carunculæ of the urethra and preputio-clitoridal adhesions may demand attention in female children.

Next to the sound, the most efficacious method of treatment in the purely neurotic cases is the injection of strychnine beside the spinal column in the lumbar region. The dosage is to be in

proportion to the age of the child; but, as a single daily dose is given, a larger quantity can be administered than where it is given internally three times daily. The injection should be made deeply into the substance of the erector spinæ muscle, and as close to the spinal column as possible.

Where vesical catarrh is a factor in the cases, and especially in cases where the urine is alkaline or neutral, uro-tropin is often of value in connection with the usual local measures for the correction of the condition. G. Frank Lydston (*Pediatrics*, Jan. 15. 1902).

MILKS, ARTIFICIAL.

While, in the generality of subjects the use of milk in disease cannot be improved upon by any other fluid food, in exceptional cases it cannot be administered for a variety of causes. Some of these are fanciful and the outcome of prejudice, others real and beyond the patient's will or judgment to control.

For these various reasons, substitutes for milk have been personally devised where its use is thought a necessity, but when a patient's distaste or objections must be considered.

In composing an artificial milk the following conditions are considered: That it should approximately represent all of the component parts of the animal secretion. That the percentages of salts and of water are of vital importance. That the product should be cheap and readily and rapidly prepared. That the ingredients should be easily obtained. That they should be fresh and sterile, and that the mixture be palatable. These requisites are fulfilled in the following general formula: Extract of malt (sirupy), 1 tablespoonful; olive-oil, 1 tablespoonful; roasted flour, 2 teaspoonfuls; 1 broken raw egg.

Beat up in a bowl or dish with a spoon or egg-beater for three or four minutes. Add by degrees, while stirring, a tumblerful or gobletful of pure, cold, drinking-water. Season with table-salt. To be taken one or two hours after meals; in hot weather, crushed ice may be added, or the whole may be prepared in a "milk-shaker."

The extract of malt is used to emulsify the oil, and for its diastatic effect upon the flour. The malt should be of thick consistency. The olive-oil represents the fat of milk. The egg, the albuminoids, fat, and salts of the natural fluid. The table-salt is added for its digestive effect and to improve the taste of the compound. The roasted flour, after conversion into dextrin and maltose, replaces the lactose of milk. The proportion of water is necessary for proper digestion and ready absorption.

This general formula is varied and modified in numerous ways, according to the circumstances or indications of any particular case. The flour may be increased in amount or diminished or omitted. Increased for its soothing effect in intestinal disease, dispensed with where a carbohydrate is not indicated. The olive-oil may be replaced by any other fixed oil or fat. Of the former class, codliver-oil deserves particular mention. Other more or less eligible substitutes for olive-oil are the fixed oils of cotton-seed, rape-seed, sweet almonds, poppy-seed, and pea-nut.

Of fats, unsalted butter and chocolate, 1 heaping teaspoonful of the first and 2 heaping tablespoonfuls of the second, will be found useful. In a chocolate milk, the roasted flour is needless. The chocolate should be grated, or in fine powder form.

The flavor of these artificial milks is rich, and the after-taste pleasant. They

produce the agreeable, general sensation of normal digestion. They are restoratives for minor forms of temporary exhaustion, muscular or mental. They produce feelings of composure and confidence. The subject's mind and manner, nerve and decision, are at their best. Louis Kolipinski (*Medical News*, Dec. 21, 1901).

MYOCARDITIS, CHRONIC.

In chronic myocarditis the most common physical sign is the sallow, pallid countenance. A general endarteritis may be present for a long time and yet no change occur in the complexion. Interstitial nephritis may progress slowly, and yet cause no change in the complexion. The onset of this sallow hue is generally synchronous with the degenerative cardiac lesion, and usually cardiac symptoms or physical signs are found coincidentally, the endarteritis involving the coronary arteries.

With the sallow countenance, the earthy complexion, a prematurely old appearance of the individual manifests itself, in the color of the hair, the baggy eyelids, and the abundance of wrinkles.

With the external appearance common to most cases the results of physical examination usually tally. In the first place, there is evidence of endarteritis in the vessels.

The physical signs of the heart are those of the (a) myocarditis alone, or those of (b) myocarditis plus some hypertrophy, or those of (c) myocarditis plus dilatation. The physical signs of myocarditis are those of feeble or absent impulse; or, if palpable, of apex impulse displaced to the left; of marked increase in the area of absolute cardiac dullness, and of characteristic auscultatory phenomena.

The latter phenomena are those either of a systolic shock, greater than the force of the impulse would lead one to believe to be present, or of feeble muscular sound. From the first, or at least early, there is gallop-rhythm, or reduplication of the systolic sounds. This reduplication may be heard over the right heart or more distinctly over the left heart; sometimes it is heard all over the precordia. It may be more marked in the supine position, and is generally more marked after exertion. It may disappear after a stimulant is taken or if the heart is stimulated by fever.

Reduplication of the second sound also obtains, but is less frequent in the myocarditis of coronary artery disease than in that due to valvulitis or nephritis. In uncomplicated cases murmurs are not heard until late in the disease. Sometimes, however, a systolic murmur is heard at the fourth rib, greater in the recumbent posture. This murmur is soft, low in pitch, and often heard in the parasternal line. Again, it is at the tricuspid or even may be in the pulmonary area, when it is probably, although not necessarily, hæmic.

When dilatation supervenes, the physical signs change in keeping with the physical condition of the heart. J. H. Musser (*Medical News*, Jan. 11, 1902).

MYXEDEMA.

It is a mistake to crowd the thyroid in the beginning of treatment. The heart-muscle, from a long-continued absence of the thyroid secretion, is so weak that it stands its primary depressing effect badly. When a little time has elapsed, and the heart has again become accustomed to the effect of the thyroid substance, it may be increased with

propriety and benefit. T. P. Prout (Amer. Jour. of the Med. Sciences, Dec., 1901).

NEURASTHENIA.

The name neurasthenic spine is used to designate those painful affections of the spine in which the subjective symptoms are out of proportion to the objective signs, and in which no organic disease can be found to exist.

The symptoms of the condition vary very much in severity, but comparatively little in type. The slightest grade is shown by backache, increased by exertion and physical or mental fatigue. Sensitive spots are present near the spinous processes in different regions of the spine. Sensitiveness of the skin and certain muscles may be present. The pain is increased by motion and jar, and, as a rule, persists for many hours after the cause of it has stopped.

The severest type is represented by a condition in which the patient is unable to sit erect on account of similar symptoms of severe grade. Such is the spinal invalid.

Between the extremes lie cases of every degree of severity. In the severe cases of long standing some impairment of motion is likely to come on, and lateral deviation of the spine to a slight degree may be present. In most cases, especially in the severer ones, the patients present some of the general symptoms which would be classified as neurasthenic or hysterical. The condition is almost invariably chronic, and without treatment its tendency is to remain stationary or to grow worse. R. W. Lovett (Amer. Medicine, Nov. 30, 1901).

Gastric neurasthenia is not an affection of the stomach, pure and simple, but a local expression of a general neu-

rasthenia, and is, in fact, the commonest manifestation of it. The patient has, in all probability, suffered for a long time with general neurasthenia of a mild form, but has taken little notice of the diminished capacity for mental and physical work, and the other characteristic symptoms, and it is not until to these are added the special gastric troubles that he decided to obtain medical advice.

As regards the recognition of gastric neurasthenia, one is practically justified in diagnosing it when one has excluded all organic or anatomical affections of the stomach, and, in addition, finds the characteristic stigmata of general neurasthenia. The signs elicited upon a physical examination of the patient, and which will confirm the diagnosis, are the following: 1. One will probably be able to elicit the splashing sound (*clapotement*, *Magenplätschern*) during the whole of the digestive period; but the absence of food-residues from the stomach before breakfast will show that the severe form of myasthenia gastrica is absent. It is important to bear in mind that gastric splashing may be absent in cases characterized by the presence of sensory neurones only. 2. There are usually spots painful on pressure in the upper abdominal region. There is not a single one, as in ulcer, but several, and these not so acutely tender. 3. No diagnostic information is to be obtained by the chemical examination of the gastric juice. Usually there is slight hypochlorhydria, occasionally hyperchlorhydria, and often it is quite normal. 4. Gastropptosis and nephropptosis are often present, and strongly suggest neurasthenia.

The diagnosis is thus mainly to be made by a process of exclusion. George

Herschell (Edinburgh Med. Jour., Jan., 1902).

A nasal spur, exostoses, hypertrophy of the mucous membrane covering the turbinate bones, by pressure upon the sensitive nerves of the Schneiderian membrane, frequently cause pain in the eyes, headache, and nervous exhaustion, and complete relief is experienced by the patient after a successful operation for the removal of the cause of irritation.

Neurasthenia has been divided by neurologists into two types: cerebral and spinal. Those symptoms which are of cerebral origin the result of reflex irritation, and terminating in nervous exhaustion, are as follow: The subjects of this malady are usually of the female sex. Hysteria may develop, but does not take the form of convulsions; sick headache, twitchings, muscular weakness, and melancholia are among the most prominent symptoms.

Ranney, in his "Lectures upon Nervous Diseases," says: "In this class of cases my experience has convinced me that eye-strain constitutes one of the most important factors in the causation of the symptoms, and the detection and relief of the defect which exists in any individual case is of the greatest importance."

In one personal case a young lady suffered for the past three or four years with headache and pain through the eyeballs. Smarting and burning of the eyes, which at times were sensitive to the light. She had also throat trouble and nasal catarrh. Suffered with cold feet and hands, palms of the hands nearly always moist with perspiration, but seldom perspired on the balance of the body. Had insomnia and melancholia. Had been also a sufferer from chronic urticaria. Had taxed her eyes

severely in copying for her father, who was writing a book.

The case was typical of profound neurasthenia, or nerve-exhaustion, to which it is believed the eye-strain had largely contributed. Vision with each eye was $\frac{20}{15}$. Examination of the eyes under sulphate of atropine revealed hypertrophic astigmatism, corrected by a plus cylindrical lens, $\frac{1}{2}$ diopter; axis, 120 degrees, for left, and 90 degrees for right, eye. This, with treatment of the nasal catarrh by sprays, electrical cauterization, and removal of hypertrophied mucous membrane and a part of the cartilage of the middle turbinated bone with nasal saw, relieved the nasal trouble, and also the pain in head and eyes. Neurasthenic symptoms disappeared, and her general health greatly improved. She wears her glasses now only for sewing and reading. In this case there was the complication of nasal catarrh, but the removal of the eye-strain by correcting the astigmatism relieved most of the neurasthenic symptoms before the nose was surgically treated. J. H. Buckner (Cincinnati Lancet-Clinic, Jan. 4, 1902).

As regards the question of diet in gastric neurasthenia, the first problem to be decided is the frequency with which meals should be given. One should first ascertain the presence and degree of the affection by extracting the stomach-contents, before dinner and before breakfast, respectively.

The object of the examination is to exclude myasthenic retention. If this can be done, frequent small meals may be given.

The next point to ascertain is whether the food shall contain a preponderance of proteid or of farinaceous material. To this end a Ewald test-breakfast, consisting of dry bread and

water, is administered, and the contents of the stomach examined one hour afterward.

If hydrochloric acid is in excess, a food must be given which has a high combining value with hydrochloric acid. There are several foodstuffs which, while having a high combining value to HCl, yet stimulate the secretion of it much less than red butcher's meat. These are sweetbreads, calves' brains, oysters, albumin of eggs, plasmon, and milk.

The amount of starchy food must be limited; as much of it must be converted into dextrin as possible. Bread should be toasted, and converted starch, such as grape-nuts or Mellin's food, may be given. With the starchy food a diastatic ferment—such as malt-extract (choosing the liquid ones, such as by-nin), taka-diastase, or infusion of malt—should be given.

If the hydrochloric acid is found normal or deficient, such a diet as the following may be prescribed:—

Breakfast.—Cold boiled bacon, toast, one egg; toward the end of the meal, one small cup of cocoa. Fresh butter *ad libitum*.

Lunch.—One white meat, or fish or poultry or bird; green vegetables in the form of a *purée*; stale bread or toast. One glass of water toward the end of the meal.

Dinner.—Fish; butcher's meat, roast, grilled, or boiled, especially lamb, hare, tender beef, and tripe; *purée* of vegetables; baked apples or stewed fruit, baked custard pudding; toast or bread. One glass of water toward the end of the meal.

If desired, a little spirit may be added to the water at lunch and dinner. An hour before any meal the patient may take as much water as he likes to drink.

No soup, *entrées*, or nuts, cheese, or pastry are to be allowed.

In gastric neurasthenia all food of every kind will cause discomfort. It is well, therefore, to explain this to the patient, and put him at once upon a diet which is adequate to support life, and insist upon it being taken, however much discomfort it causes. George Herschell (Edinburgh Med. Jour., Jan., 1902).

CEDEMA, ACUTE SUFFOCATIVE PULMONARY.

The symptoms of acute suffocative pulmonary œdema are so striking that there is but little difficulty in recognizing their significance. Without warning, and without any overexertion or excitement, the patient is suddenly seized with great difficulty of breathing, accompanied by a sense of intense oppression behind the sternum. It is quite impossible for him to lie down, and almost simultaneously with the onset of the dyspnœa—a most important diagnostic point—expectoration of a perfectly white, finely frothy, watery sputum begins. The frothy fluid seems to flow up the trachea, and is expelled with a "hawk," as if clearing the throat, but there is no cough in the ordinary sense of the word. The sputum continues during the whole period of the dyspnœa, and the seizure is not usually accompanied by fever. The impulse may be very rapid; and wheezing and fine, moist râles are everywhere heard. The extremities soon become cold and blue, the face is ashen gray, and the agony and anxiety of the patient are extreme. After a little the frothy sputum becomes slightly pink in color, and in some cases, after the attack has lasted for an hour or two, definitely bloody.

In the course of five or six hours as much as one and a half pints of this frothy fluid may be expectorated. The whole clinical phenomena indicate that the pulmonary alveoli are suddenly inundated with watery serum, and it is quite conceivable that such a condition might prove very rapidly fatal.

The symptom which establishes the diagnosis of acute œdema of the lungs as against pulmonary embolism is the rapid development, practically coincident with the onset of the dyspnœa, of white, frothy, watery expectoration, which afterward becomes slightly pink in color. In embolism expectoration is a later development, and when it is established the sputum is definitely bloody from the first.

Free stimulation is the first therapeutic procedure which would naturally suggest itself on witnessing the state of collapse into which the patient soon passes. The stimulants are better administered hypodermically and by the rectum. An ounce of brandy may be injected into the rectum diluted with an ounce or two of water or beef-tea. At the same time a hypodermic injection of strychnine ($\frac{1}{80}$ grain) and of digitalin ($\frac{1}{100}$ grain) may be administered. The patient should be kept absolutely at rest in the sitting posture. A sinapism over the precordium is of assistance, and the extremities should be kept warm by hot bottles. Opiates in any form are to be avoided. The injections may be repeated, if necessary, in three or four hours. If the patient is able to swallow, diffusible stimulants, such as sal volatile, are to be recommended, and small quantities of milk, beef-tea, and brandy from time to time.

The propriety of blood-letting also suggests itself. The blood may be taken either at the arm or by wet-cup-

ping of the chest. The depression and collapse, however, are frequently so extreme that one hesitates to deplete. J. L. Steven (Lancet, Jan. 11, 1902).

OSTEITIS OF THE KNEE, EFFECT OF.

From measurements of the femoræ, tibiæ, feet, and patellæ, during or after osteitis of the knee, in 40 cases where the disease had begun in childhood, the following conclusions were reached: 1. The affected limb, if approximately straight, was longer in the first four years in the large majority of cases. In observed cases of adolescents and adults it was from one to several inches shorter when the disease had lasted over seven years. 2. The affected femur was nearly always longer in the first four years, and the lengthening of the limb mainly due to lengthening of the femur. In the older cases, after a duration of seven years or more, the femur was markedly shortened. 3. The tibiæ were usually equal in length in the early stages; later the tibia of the affected side might be slightly longer for a time, but oftener shorter; the shortening increased considerably in the older cases, and after the subsidence of inflammation. 4. With limbs of equal length and a duration of several years, the femur of the affected side was found longer and the tibia shorter than its mate. 5. The foot and patella showed a difference in favor of the sound side after one year and frequently before. 6. The stimulation of growth in the affected femur was accompanied by a retardation in the tibia, foot, and other parts; growth in the femur itself was finally retarded. The result after many years was often considerable shortening of the limb. H. L. Taylor (Medical News, Dec. 28, 1901).

**POST-MORTEM EXAMINATION OF
LEON F. CZOLGOSZ.**

The following measurements of the head of Leon F. Czolgosz have been recorded:—

	Centimeters.
Maximum lateral diameter.....	15.5
(Cephalic index = 82.88.)	
Bi-auricular diameter (between roots of zygomata)	15.0



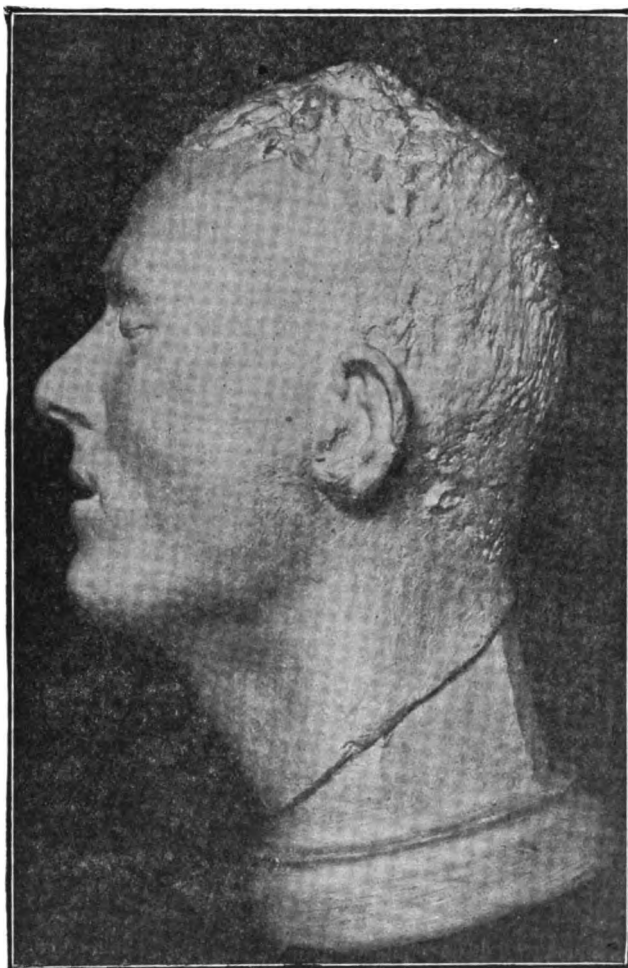
Post-mortem Examination of Leon F. Czolgosz. (*E. A. Spitzka.*)

(*New York Medical Journal*, January 4, 1902.)

	Centimeters.		
Maximum circumference (21 $\frac{1}{2}$ inches)	54.6	Length of face (from the intersuperciliary point to the superior alveolar point between the middle incisors)	9.2
Maximum antero-posterior diameter (from glabella to maximum posterior point)	18.7	Bizygomatic diameter	14.5
		Minimum frontal diameter.....	12.0

	Centimeters.
Diameter from glabella to inion..	19.1
From vertex to hair-line.....	12.0
From hair-line to root of nose....	6.0
From root of nose to its base....	5.3
From base of nose to chin.....	7.0

After these measurements had been taken plaster molds of the entire head were made. A case was made from the molds, and two views, in full face and in profile, are presented here.



Post-mortem Examination of Leon F. Czolgosz. (*E. A. Spitzka.*)

(*New York Medical Journal*, January 4, 1902.)

	Centimeters.
Vertex to chin (diameter).....	25.4
Breadth between pupils of eyes..	6.8
Breadth of nose at its base.....	3.4
Width of mouth (internally)....	4.0
Width of mouth (externally)....	5.0
Length of ears (both sides equal).	6.1

The molds were made upon the head while the body lay prostrate upon the table. This attitude gave rise to the prominences of the "Adam's apple" and to the slight parting of the lips. The hair was rubbed well with vaselin and

flattened as much as possible to prevent the plaster from adhering.

On the skull the following measurements were taken:—

	Centimeters.
Maximum antero-posterior diameter	18.0
Maximum lateral diameter.....	14.7
(Cranial index = 81.66.)	

The head of Czolgosz, as is typical of the Poles, falls into the subbrachycephalic class; according to Weisbach, the cephalic index of forty Poles was 82.9 (82.88 in Czolgosz).

As to the question whether his body invested a healthy mind, so far as our knowledge of the correlation of brain-structure and brain-function extends, nothing has been found in the brain of this assassin that would condone his crime for the reason of mental disease due to intrinsic cerebral defect or distortion. The brain-weight, though by itself unimportant, when considered in its other relations, points to a good condition of the organ. Divested of its membranes, dissected, drained, and after being immersed in a salt solution for several hours, its weight was 1415 grammes, a trifle less than fifty ounces. This weight is even a little over the average. Giltchenko records observations upon the weight of 102 Polish brains, the average being, for males, 1397.8 grammes, with an average stature of 168.12 centimeters. The development of the fissures and gyres, from a morphological view-point, has taken place in the direction usual in ordinary average brains. There are no marked evidences of arrested development or of pithecoïdal anomalies. Generally speaking, this brain does not exhibit that special kind of asymmetry of gyral structure in the cerebral halves that is so characteristic of the brains of

highly-endowed individuals. There are many features in the one hemisphere that are reproduced almost exactly alike in the other. The few peculiarities encountered in the course of the fissures, such as the confluence of the left precentral, by its anterior ramus, with the superfrontal—across the medifrontal gyrus; or the separation of the right cephalic paracentral limb from its stem while at the same time the inflected joins the paracentral—a feature found by the writer in 9 out of 160 hemispheres in which the inflected was present, also the smallness of the cuneus—are insignificant so far as individual brains are concerned.

The skull is not symmetrical, but the asymmetry is slight and fully within the normal range of variation. An absolutely symmetrical skull probably does not exist.

It is a probable fact that certain oft-mentioned aberrations from the normal standard of brain-structure are commonly encountered in some criminal or degraded classes of society, and those who have attempted to found a school of degeneracy have endeavored to explain crime and social wickedness as due to the “accidental persistence of lower types of human organization.” But these structural anomalies, so far as they have been described in the brains of criminals, are too few and too insufficiently corroborated to warrant us in drawing conclusions from them. The verdict must be: “Socially diseased and perverted, but not mentally diseased.” E. A. Spitzka (New York Med. Jour., Jan. 4, 1902).

PREGNANCY, PELVIC AND ABDOMINAL TUMORS COMPLICATING.

In the very small percentage of cases in which malignant tumors are the

cause of the obstruction, they should be dealt with according to the well-established principles of modern surgery. The operation should be done at once without any reference to the child, if by so doing there was any additional chance of saving the life of the mother. If the ovarian tumor is thin-walled, of large size and rapid growth, and the patient is not near her full term of gestation, an operation should be advised, even if the uterus is below the tumor. If the tumor is thick-walled and of slow growth, is not causing much, if any, inconvenience, and rides above the enlarged uterus, an operation is not urgently demanded. If the tumor is small, is situated below the uterus, and is fixed either by adhesions or by impaction, an immediate operation is demanded. Tapping the tumor for temporary relief should not be done. In fibroid tumors of the uterus associated with pregnancy, where there are but one or two large nodules, and they are situated in the upper half of the uterus, an operation should be advised only in rare instances. These patients can be delivered safely and be operated upon later if necessary. If the tumor is below the uterus, and a large nodule blocks up the passage, an operation should be advised and done early. Myomectomy is usually not to be considered in these cases, on account of the increased blood-supply. It is advised only when an exceptionally favorable tumor for this method is encountered. R. B. Hall (New York Med. Jour., Dec. 7, 1901).

PROSTATECTOMY, MEDIAN PERINEAL; TOTAL REMOVAL OF THE PROSTATE GLAND.

The patient is placed in the extralithotomy position. The prostatic de-

pressor is inserted into the bladder through the urethra, and handed over to a trusty assistant. A sponge is pushed into the rectum, to prevent the escape of liquid fæces. The middle finger of the left, gloved hand is then introduced into the rectum and pressed against the urethra at the junction of the membranous and prostatic portions; a long, narrow-bladed knife is passed into the perineum through the raphé in the median line, two inches in front of the anus, until it reaches near to the tip of the finger in the rectum, and with one stroke all the structures are cut through to the prostate, without injury to the urethra, prostate, rectum, or anal sphincter. The skin-incision is now enlarged, if necessary, for the introduction of two fingers. Suitable retractors are placed, one on each side, into the wound, and by blunt dissection the prostate is exposed, and with the depressor in the bladder it is forced into the perineal wound. The capsule is opened with knife or scissors in a transverse direction sufficiently to admit one or two fingers. The retractors are within the capsule. This is important, because traction made on them drags the gland still farther into the wound and holds it firmly while enucleation and extirpation are being performed. One then enucleates with the finger, and bites away the portions thus liberated with the prostatic forceps, until by piecemeal the prostatectomy is completed. While morcellement is in progress, it is advantageous to advance the retractors within the capsule and introduce the middle finger into the bladder. Any water that is in the bladder and wound is to be mopped out, and a drainage-tube, surrounded with iodoform gauze, is introduced through the wound into the bladder. A couple of horse-hair

stitches close the part of the skin-wound not occupied by the tube and at the same time prevent the gauze from coming out too soon. The sponge is removed from the rectum; a comfortably firm dressing is placed over the perineum and held by a T-bandage. A long, rubber tube is then attached to the external end of the drainage-tube. A. H. Ferguson (*American Medicine*, Nov. 30, 1901).

PSYCHOSES, THE ACUTE.

Under certain conditions and in carefully selected cases travel is a therapeutic measure of great importance. To advise it indiscriminately is more than a mistake; it is a crime. Whether it be by sea or by land, the special nature of each case must determine. Travel has two spheres of greatest usefulness: either as a preventive measure or as an aid to convalescence.

Slight dementia, due to serious bodily illness, and the insanities associated with phthisis, asthma, etc., have been greatly benefited by sea-voyages. Paranoia is harmed, never helped; travel increases the morbid egotism and intensifies the delusions. In excited mental cases, especially in general paralysis, travel is counter-indicated. Much has been hoped for it in adolescent insanity, but the results have been most disappointing. An ocean-voyage is thought to be especially desirable for the milder melancholias: those arising from shock, influenza, and overwork. The graver forms of the disease are only intensified by it. The quieter melancholias are kept, the better. Travel greatly increases the probability of suicide in this class of cases. C. Eugene Riggs (*Jour. of the Amer. Med. Assoc.*, Nov. 23, 1901).

QUININE RASHES.

Quinine eruptions may be divided into the following groups: The scarlatiniform, the urticarial, the bullous, the purpurial, the rubeoloid, and the erythematous. Outside of these groups, there have been reported isolated cases which cannot be placed in any of these classes.

Concerning the comparative frequency of these eruptions, out of 60 cases collected from literature, 18 were classed as erythema, 12 as scarlatinoid, 9 as urticarial, 5 as purpuric, 2 as bullous, and 2 as rubeoloid. There were 4 cases of mixed eruptions, 3 being urticarial and erythematous, and 1 bullous-scarlatinoid. In 5 of the cases the description was insufficient to allow of a proper conclusion. Eczema was noted in 1 case.

In some cases the eruption was limited to the face or limbs, while in many cases it was equally distributed all over the body.

Two points of great interest from a diagnostic standpoint, especially in those cases resembling scarlet fever, are the question of the involvement of the mucous membranes and the occurrence of desquamation. Out of 60 cases, including personal, 14 were reported to have desquamated, and 3 not to have desquamated. In 11 cases the mucous membranes of the throat were reported to have been affected, and in 3 cases not to have been affected. The eruption appeared, as a rule, within one day after taking the medicine. In 1 case it was noted within ten minutes of the ingestion of the drug, while, in another case, it was said to have followed immediately.

The eruption appeared in one hour or less in 8 cases; in one day or less in 21 cases; in over one day in 9 cases.

The latest period at which the eruption was noted to appear after the single dose was two days, of which there are several instances. H. C. Wood, Jr. (Therap. Gazette, Jan. 15, 1902).

RECTAL VALVES.

For the last two and a half years the movable rectum has been personally examined in some two hundred different individuals, and, with the exception of those subjects in whom the gut-walls had been rendered non-inflatable by disease, not an instance has been found in which the presence of the rectal valves admitted of a question. These structures have not only been present, but always the most conspicuous and easily discernible features in the entire rectum.

The rectal valves are not composed of mucosa alone, but comprise in their structure submucosa and muscular fibers as well, and therefore must impose direct resistance and support to the rectal contents; hence must be regarded as something other and more than mere folds of mucous membrane. From the modification in structure and arrangement which all the coats present upon reaching these valves, one is forced to the conclusion that they are definite anatomical structures, and should be entitled to recognition as such, just as much so as the appendix vermiformis. A. B. Cooke (Amer. Practitioner and News, Dec. 15, 1901).

RHEUMATIC FEVER AND ITS COUNTERFEITS.

Almost all forms of arthritis or joint disease are the result of some infection, one exception only being in the case of gout. Therefore, when an arthritis occurs, unless it is the result of direct injury, so-called traumatism,—and even

then it is very likely that microbes are at work,—one may always be sure that infecting matters have gained access. Arthritis which comes on independent of injury is always of an infective nature. The diseases to be mentioned as giving rise to arthritis are of that character. Gout seems to be the only exception, in so far that the noxious matter does not come from without, but from within. The gouty patient makes his own poison; he produces it by a vicious metabolism of which he is the victim. The rheumatic patient does not grow his own poison; that comes from without. Therefore in all these cases of arthritis, with the exception, theoretically, of traumatic arthritis, one has to deal with an infective process.

Of these diseases, influenza is very often the cause of arthritis: a condition which is called post-influenzal arthritis. In scarlatinal arthritis there is a certain toxic matter, but it has not been differentiated. Scarlatinal arthritis is generally of a pyæmic character.

Gonorrhœal arthritis is caused by the gonococcus. In some people that infection leads to a very severe and intractable form of arthritis, falling especially heavily upon persons of a gouty constitution. One also recognizes dysentery as a disease which is sometimes followed by arthritis: a post-dysenteric arthritis. There is a pneumococcal arthritis depending on the presence of the same pneumococcus as causes pneumonia in the lung.

After cerebro-spinal meningitis one meets with arthritis which also belongs to the pyæmic class. Thus there are several varieties of septic arthritis. Formerly, before the days of antiseptic surgery and antiseptic midwifery, cases were seen, after childbirth, of puerperal arthritis.

As a result of osteomyelitis, or acute necrosis of a bone, of which the lower part of the femur is very apt to be the seat, or it may be the petrous portion of the temporal bone, blood-poisoning is produced by the setting free into the blood-stream of showers of streptococci or staphylococci. All these agencies may give rise to a form of joint disease closely resembling rheumatism. Gout has long been confounded with rheumatism, and is so still in many quarters. When gout is in its typical form, falling upon the great-toe joint, in an overfed and overindulged person, the diagnosis is not very difficult; but, when gout occurs in a number of joints at the same time, the diagnosis is much more difficult. Polyarthritides uratica—that is to say, a generalized gout occurring in many joints—may simulate rheumatic fever very closely. In typhoid fever in the first ten days there may be pains which may lead one to suspect rheumatic rather than enteric fever. In relapsing fever in the early stages there may be this pain occurring in the joints which may prevent an exact diagnosis being made. In scurvy-rickets in children there is enlargement of the joints and bones, and, if one is not familiar with that disease, he is apt to suspect that it is nothing more than rheumatism. But by far the larger number of mistakes are made in the case of osteoarthritis, which is sometimes called rheumatic gout, which is, for the most part, a chronic form of arthritis, not infrequently starting acutely. There are many degrees and many varieties of rheumatic arthritis. In the acute forms mistakes may easily be made in thinking the patient is suffering from rheumatic fever. The first thing noticed is that the treatment found to be generally successful in rheumatic fever is of

no use here. The same may be said with regard to gonorrhœal arthritis. Four out of every five cases of true rheumatic fever are promptly relieved by salicylate-of-sodium treatment. But there remain a few cases of rheumatic fever which are not benefited by salicylate. Whenever it is found that salicylate treatment does not do good, one may reasonably conclude that he is dealing with a case, not of rheumatic fever, but, perhaps, with a variety of arthritis due to some other infection. Sir Dyce Duckworth (*Phila. Med. Jour.*, Jan. 4, 1902).

SARCOMA OF LARGE INTESTINE.

Of fourteen of personal cases in which is recorded the diagnosis made before operation or autopsy, in only two can the tumors be said to have been fairly accurately localized. The presence of metastasis to the lymph-glands and the peritoneum may give rise to the presence of multiple tumors, which may be very confusing.

The primary symptoms are gastrointestinal manifestations of a dyspeptic type, especially abdominal pain, anorexia, and vomiting; progressive, rapid emaciation; moderate fever; abdominal distension, usually without ascites, but occasionally associated with œdema of the lower extremities; and the presence of a tumor, which is more often movable than immovable, frequently tender, usually of firm consistence, and often located in the right iliac region. The absence of obstruction in the great majority of cases is of great significance. The above chain of symptoms occurs in persons of any age, but with greatest frequency in those under forty years, and with relative frequency in the early years of life. The group of symptoms cited does not differ materially from

that associated with sarcoma of the small intestine, except, perhaps, the more frequent location of the tumor in the right iliac fossa in disease of the large intestine, owing to the frequent location in the cæcal region. The tumor may be very tender in the case of the large intestine, in which it probably does not differ from some cases of tumor of the small bowel, which, in the majority of instances, are said to be slightly or not at all tender. Both are liable to be complicated by intussusception.

The main points of differentiation would seem to be, in a sarcoma of the large bowel, its appearance in the majority of cases in early life (under forty); the early appearance, rapid growth, and large size of the tumor; the quick cachexia, and the absence of obstruction in most of the cases. Pain and tenderness may be present in both; but pain is an early and rather constant symptom in sarcoma of the large intestine, while in carcinoma it does not usually manifest itself until symptoms of obstruction develop. J. H. Jopson and C. Y. White (*Amer. Jour. of the Med. Sciences*, Dec., 1901).

TUBERCULOSIS, PRIMARY ABDOMINAL.

The diagnosis of primary abdominal tuberculosis is exceedingly difficult. Abdominal surgeons are the best diagnosticians in these cases. All that the physicians can do at present is to look with suspicion on every case of chronic indigestion, biliousness, constipation, diarrhœa, abdominal pain or tenderness, bladder disturbance, leucorrhœa, and persistent backache, when accompanied by circulatory disturbance and loss of weight. In some forms of intra-abdominal tuberculosis a diagnosis can be posi-

tively made, when the disease has advanced to the breaking-down stage, by a microscopical examination of the discharges. This applies best to tuberculosis of the kidneys, but may also apply to tuberculosis of the uterus, tubes, and ovaries. Injection of tuberculin for diagnostic purposes may be resorted to when the symptoms point to tuberculosis, but are too meager to warrant a conclusion. Sometimes light can be thrown upon a case by treatment.

As knowledge about intra-abdominal tuberculosis increases, one will no doubt find that success in treatment depends upon early diagnosis and the establishment of vigorous treatment before mixed infection has set in. L. F. Flick (*St. Louis Courier of Med.*, Dec., 1901).

TUBERCULOSIS, PULMONARY.

The specific premonitory symptoms of pulmonary tuberculosis are loss of weight, gastric disturbance, pallor, lassitude, vasomotor disturbances, perhaps cold hands and feet, or intermittently very hot extremities, shallow breathing, irregular chest-pains, and dry cough, especially on deep inspiration, with the most important symptom of all,—unexplained afternoon temperature,—although such a temperature can be of nervous origin.

As to the previous history, there has often been much sickness, especially colds; enlarged glands, suppurating or not; adenoids; middle-ear catarrh; joint inflammation, not rheumatic or syphilitic; chronic diarrhœa, and perhaps a rectal fistula.

As soon as the first symptoms of pulmonary localization occur, whether ascertained by physical or x-ray examination, the diagnosis is positive. Before such localization is discoverable, being unable to make a positive diagnosis,

shall one use tuberculin? After a most careful study of the results of many experimenters the conclusion has been reached that for the general practitioner the following thoughts should be considered:—

First, the tuberculin test is reliable, pathognomonic, and justifiable.

Second, it should not be used carelessly, though perfectly safe if a small dose is first used. If there is no reaction, the dose should be gradually increased. If no reaction to a full dose is thus obtained, the patient is free of tubercular infection; but this non-reaction does not preclude the danger that a doubtful case has of becoming infected; hence the preventive cure is the same.

Third, in cases in the first stage, with a localized pulmonary lesion, the use of tuberculin is unnecessary.

Fourth, when one recognizes in a patient evident tendency to allow the tubercle bacillus to fasten on and grow, preventive treatment should be instituted whether the germ is there or not; hence, it is not absolutely necessary to know whether some gland in the body contains a tubercle or not.

Fifth, in doubtful joint cases, or where it is best to positively know whether the infection is actually in the system, tuberculin should be used. O. T. Osborne (*Yale Med. Jour.*, Dec., 1901).

UTERUS, FIBROID TUMORS OF THE.

From reports of various operations, the estimate that the mortality of hysterectomy and myomectomy varies from 2 to 10 per cent. depending upon the gravity of the cases, upon the operator, and upon the environment in which the operations are done, is justified.

The conclusion is inevitable that the proper treatment of fibroid tumors of the uterus is their early removal. Early operation not only greatly lessens the mortality, but, what is of more importance, it also saves the long period of invalidism, which is otherwise unavoidable.

Believing that the best treatment of fibroid tumors in general is their early removal, the question remains whether there are no exceptions to this rule. The best answer to this is that each case must be decided upon its merits. It is personal individual experience that small multinodular subperitoneal fibroids in women forty years of age or more are the least apt to grow and to cause serious symptoms. Conversely, submucous and intramural fibroids in younger women are the most apt to develop and cause serious trouble. But few fibroids have been met with which are not producing symptoms, and, therefore, the percentage of cases is small in which operation is not more advisable than expectancy. C. P. Noble (*Brit. Gynæc. Jour.*, Nov., 1901).

VULVO-VAGINITIS, GONORRHOEAL, IN YOUNG CHILDREN.

1. Vulvo-vaginitis in the young girl may be divided into simple and gonorrhœal. 2. Simple catarrhal vaginitis is due, in a large majority of cases, to lack of cleanliness, and subsides when the proper treatment is instituted. 3. Gonorrhœal vulvo-vaginitis in young children is more common than is generally supposed. While more frequently met with amidst unhygienic surroundings in large cities, it is by no means a rarity in the less thickly settled districts. 4. Gonorrhœal disease is more frequent below the age of six; it is more

common in girls than in boys. 5. Specific vulvo-vaginitis, in the large majority of cases, arises from actual contact of the patient with some infected person. A study of the reported epidemics, however, shows that the disease may be spread by other means, such as a common bath, towels, bed-linen, etc. 6. The ordinary staining methods will prove satisfactory in making a differential diagnosis between specific and other forms of vulvo-vaginitis. 7. The parts affected in their order of frequency are the labia, urethra, vagina, and cervix; the vagina is more frequently affected in the child than in the adult, owing to the character of its epithelium. 8. The tubes, ovaries, and peritoneum may be involved in the pathological process. It is not improbable that certain diseases of adult life may be ascribed to gonorrhœal infection in infancy. 9. Purulent ophthalmia and rheumatism are quite frequent complications. The strictest prophylaxis should be observed in order to avoid the former. 10. The treatment of specific vulvo-vaginitis must be energetic to be of any avail. Under certain conditions the vaginal orifice should be widely dilated and the vaginal pus-cavity properly drained. Reuben Peterson (Amer. Medicine, Jan. 11, 1902).

WHOOPING-COUGH.

Of drugs for internal medication, the antispasmodics are the best. *Mistura asafœtida*, $\frac{1}{2}$ drachm every two hours, is of value. This, however, is often disappointing, and probably the next best drug is belladonna. The dose of the tincture should be 1 drop for every month of the child's life, and should be pushed to the full physiological effect. A prescription personally used is the following:—

R Atropinæ sulphatis, 1 grain.
Aquæ destillatæ, 1 ounce.

One drop of this is given every three to four hours, and gradually increased until a cutaneous flush is obtained, and the child is then kept under its physiological effect. Of the coal-tar products, antipyrin is the best. One grain of antipyrin is given for each year of the child's life.

A combination of belladonna or atropine and antipyrin acts better than any alone. A very useful adjuvant is the use of a freshly-prepared belladonna plaster placed between the scapulæ.

Convalescence is favored by sea-shore life, and a tendency to chronic bronchitis is overcome by an early and continued use of codliver-oil. W. C. Hollopeter (Medical Bulletin, Dec., 1901).

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

Memoir of William Fisher Norris. By Charles A. Oliver, Philadelphia. 1901.—A Case of Myasthenia Gravis. By Haldor Sneve, M.D., St. Paul. 1902.—The Nasal Septum. By Walter J. Freeman, M.D., Philadelphia. 1901.—Pennsylvania's Part in the Winning of the West. By Horace Kephart, St. Louis, Mo. 1902.—Carbon Bisulphide as an Insecticide. By W. E. Hinds. United States Department of Agriculture, Washington, D. C. 1902.—Experiment-Station Work, XIX. United States Department of Agriculture, Washington, D. C. 1901.

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6. During complete narcosis watch (a) respirations, (b) pulse and facial artery, and (c) pupils.

7. Consider (a) lateral rolling of eyeballs; (b) deep, sighing respiration; (c) deglutition movements; and (d) the hiccough which precedes the act of vomiting as signals to push the anæsthetic. The precursory hiccough is always a positive sign of returning reflexes; by immediately pouring an ounce of ether on the cone and precluding air, it is always possible to prevent actual vomiting. George de Tarnowsky (American Medicine, April 19, 1902).

APPENDICITIS.

In a study of leucocytosis in appendicitis the following deductions are of value:—

1. The leucocyte-count is a valuable aid to prognosis in appendicitis.

2. This is distinct from its diagnostic value.

3. A high stationary or an increasing count indicates a morbid condition of increasing severity which demands operation no matter what the clinical symptoms may be.

4. A low stationary or decreasing count indicates that the severity of the case is abating and that operation may be safely postponed. Cases in which a falling count is accompanied by unmistakable signs of a generally bad condition form the rare exception to this second principle, and in them there is no chance of error.

5. No arbitrary set of prognostic values to be assigned to various degrees of leucocytosis can be constructed. The important point is to follow any scheme in which one learns to have confidence, provided the essential principle be preserved.

6. The count indicates when operation

should be performed for the best interests of the patient.

7. Circumstances often render it desirable to postpone operation in appendicitis. Study of the blood-count enables it to be determined whether this may be done with safety and often renders such postponement permissible. H. M. Joy and F. T. Wright (Medical News, April 5, 1902).

ARTERIOSCLEROSIS, TRUNECEK'S INORGANIC SERUM IN CASES OF.

Three cases of arteriosclerosis treated with Trunecek's serum show that this remedy fulfills all the claims made for it by the originator. The treatment is based upon the following: Among the inorganic salts in the circulating blood, of which sodium chloride forms about 70 per cent., there is a certain amount of calcium phosphate. This salt, though insoluble in water, dissolves easily in solutions of common salt or of magnesium or sodium phosphate. In normal human serum there are very small amounts of these salts, and the solubility of calcium phosphate in the blood is due chiefly to sodium chloride and to the alkaline phosphates in that fluid. In the tissues sodium chloride is present in considerable quantities, and this amount grows less with age. Arteriosclerosis is chiefly due to the deposit of calcium phosphate in the walls of the arteries, and as the disease occurs for the most part in old persons, it is thought that it is due to a lack of salt in the system. Therefore chloride of sodium and other salts that render the blood alkaline should be administered in this disease. The solution of inorganic salts should be introduced into the veins or under the skin. Zanoni and Lattes (Gazzetta degli Ospedali e delle Cliniche, Jan. 19, 1902).

BALDNESS.

Prevention through massage-exercise is nine points in the law of treatment of baldness. This should be begun in early life, at the time when the youth is developing into the more sober man, when his occipito-frontalis muscle has become more and more subordinated to his will. Massage should be performed the same way as in other regions, first freeing the vessels farthest from the seat of trouble, and gradually approaching the center. It should be done at night as well as in the morning, particularly at night, as gravity has little, or comparatively little, chance through the day. If the scalps of men received enough exercise as the scalps of women, there should be on the vaults of their craniums a luxuriant tonsure. George Elliott (*Dominion Medical Monthly*, March, 1902).

BLOOD, AGGLUTININS IN THE.

From a study of agglutinins in the blood, the following conclusions may be noted:—

1. The cultures of a microbe freed from that microbe by filtration, dialysis, or centrifugalization have a distinct, though feeble, agglutinating effect on that particular microbe. The age of the culture and the constitution of the medium are important factors in determining the quantity of agglutinins present in such cultures.

2. The red corpuscles of non-immunized and immunized animals contain no trace of agglutinins.

3. On the other hand, the polynuclear leucocytes of non-immunized animals always possess an agglutinating power greater than, or more rarely equal to, that of the serum. They may therefore be rightly considered as the producers, or at any rate the carriers, of the agglutinins.

4. In immunized animals the specific agglutinins appear in the polynuclear leucocytes, and are therefore probably formed in them. The quantity of agglutinins begins to increase thirty to forty-eight hours after the injection, and goes on increasing up to the tenth day or thereabout. They then passed into the serum, the agglutinating power of which increases correspondingly.

5. The formation of specific agglutinins in polynuclear leucocytes and in the serum is preceded and accompanied during the first three or four days after the inoculation of a given microbe by an increase of agglutinins for other microbes. This latter increase is of short duration and stops suddenly, whereas the increase of specific agglutinins persists for a much longer time. M. A. Ruffer and M. Crendiropoulo' (*British Medical Journal*, April 5, 1902).

BRONCHIECTASIS.

In treating bronchiectasis the methods placed in the order of their efficiency may be classified as follows:—

1. Inhalations of volatilized antiseptics: (a) creosote-vapor baths; (b) inhalations of creosote, oil of peppermint, eucalyptus, etc.

2. Subcutaneous and intravenous injections of antiseptic fluids.

3. Internal medication.

4. Surgical treatment (incision and drainage).

The most successful means of relieving the fœtor, and occasionally, but by no means always, of lessening the amount of the expectoration, is the inhalation under certain conditions of crude creosote-vapor, as originally suggested by Dr. Arnold Chaplin. It is necessary to carry out this treatment systematically and thoroughly.

The details are as follows:—

A small room, free of any furniture except that of the simplest kind, and without hangings, is selected. It should have good ventilation, provided mainly by means of a small fire-place, or in summer by means of Tobin's tubes. The patient should be provided with a comfortable wooden chair. On a small table is arranged an evaporating dish of the capacity of about half a pint, heated over a spirit-lamp. It is advisable not to consent to the use of a Bunsen gas-burner. Into the evaporating basin is put commercial creosote.

The creosote is slowly vaporized, and as the dense fumes begin to rise the patient commences to cough, and not only are the tubes cleared of the offensive secretions, but the deep inspirations which follow serve to draw the creosote-vapor into the smaller bronchioles, bringing it into immediate contact with the decomposing pus in the dilated tubes. A twofold object is thus effected: the cleansing of the tubes and the evacuation of their contents. It is in this combination that the creosote-vapor bath is more effectual than any other form of treatment. Until the patient becomes more or less accustomed to them, the fumes, which are very penetrating, cause a considerable amount of distress, and it is mainly the great benefit which is derived from the treatment which encourages patients to continue it.

The volatilization of a large amount of crude creosote makes everything in a mess, and the patient's clothes must be protected, and no ornaments or pictures must be left upon the walls. It may be necessary, too, to protect the eyes and face with a mask, though some patients prefer protecting the eyes merely with a handkerchief.

The treatment should be begun gradually, and the length of bath increased

from ten minutes to an hour as the patient becomes more tolerant of it, giving it at first every two or three days, and subsequently more often.

After the maximum effect in the direction of lessening fœtor has been arrived at, it is better to discontinue the baths for a time so as not to keep up the bronchial irritation. The diminution in fœtor is a far more favorable sign than mere diminution in the amount of sputum.

The effect on the patient must be carefully watched, and the length and frequency of the baths regulated according to the amount of distress and exhaustion they cause. T. D. Acland (Practitioner, April, 1902).

CARBOLIC-ACID POISONING.

Personal record kept of seven cases of internal poisoning by carbolic acid, either from intent or otherwise, whose lives have been saved by administration of about twice the amount of alcohol as carbolic acid. It is a well-established fact that when carbolic acid is mixed with whisky or brandy it will not kill. Information such as this should be disseminated through the public press, and physicians should see to it that the people are made aware of these facts. S. D. Powell (Amer. Jour. of Surg. and Gynæc., April, 1902).

CHLOROFORM ANÆSTHESIA, DEATH DURING.

One hundred and twenty experiments were made to ascertain the part played by vagus inhibition in chloroform poisoning. In fifty-four cases vagus inhibition embarrassed the circulation to a more or less dangerous extent, and in thirty-three experiments was the immediate cause of death. To sum up:—

1. A heart which has been poisoned by inhalations of chloroform of strength of 2 per cent. and upward can always be permanently inhibited by stimulation of the vagi with the faradic current when the blood-pressure has fallen to about 40 to 50 millimeters of mercury pressure.

2. Chloroform raises the excitability of the vagus mechanism, particularly in the early part of the administration.

3. The increased excitability of the vagus mechanism is due to the action of chloroform on the vagus centers, and the inhibitory action is more intense from being exercised upon a heart whose spontaneous excitability is diminished by the action of the chloroform upon it.

4. Chloroform administered to morphinized dogs in air containing not more than 1.5 per cent. of the vapor, after a period of mild excitation, slowly depresses vagus excitability. The excitability may again be raised with more or less readiness according to the duration of the administration and the endurance of the vagi by increasing the percentage strength of the chloroform or by asphyxia.

5. Vagus inhibition is, in dogs, the great factor in the causation of sudden death from chloroform.

6. Dangerous inhibition is liable to occur whenever the strength of chloroform in the air inhaled rises above 2 per cent. E. H. Embley (British Medical Journal, April 12, 1902).

CONJUNCTIVITIS DUE TO THE KOCH-WEEKS BACILLUS.

The Koch-Weeks bacillus conjunctivitis is apparently becoming more common in Philadelphia than has been hitherto observed.

It may present itself in a particularly severe form, and be complicated by

phlyctenules and even by corneal ulceration.

These cases are especially contagious, and extra precautions should be taken to prevent their spreading, particularly among the school-children.

As a rule, they are controlled by the use of mild astringent lotions, and applications of 2-per-cent. solutions of nitrate of silver. E. A. Shumway (Philadelphia Medical Journal, April 26, 1902).

CORONARY ARTERIES, OBSTRUCTION OF THE.

The following may be given as a *résumé* of the results of obstruction of the coronary arteries:—

1. The coronary arteries may be obstructed: (1) at their origin; (2) in their course.

2. If the obstruction involves a main artery and the closure is gradual, compensatory enlargement of the other artery may prevent damage to the cardiac muscle, but perfect compensation is rare, and necrosis of fibroid change commonly ensues; if, however, the closure is rapid, sudden death is the usual result.

3. If the obstruction involves a small artery, no compensatory arrangement is possible, and the nutrition of the cardiac muscle will suffer, whether the closure is rapid or gradual.

4. (a) If the obstruction is partial, some of the muscle may degenerate (granular or fatty degeneration), and may ultimately disappear and be replaced by fibrous tissue. (b) If the obstruction is complete, some of the muscle will become necrosed (infarct), and the patient may die from slow cardiac failure or from rupture of the heart; if, however, the infarct is of small size, healing may take place, and a fibroid scar be ultimately formed. J. M. Cowan (Glasgow Medical Journal, April, 1902).

DIARRHŒA, CHRONIC, PETROLEUM EMULSION IN.

Case of chronic diarrhœa in which petroleum emulsion proved of great value. A child, aged 2 years, when brought to the hospital was said to be having about twelve motions a day. The patient was given 2 drachms, three times daily, of a medicine composed of equal parts of a simple chalk mixture and petroleum emulsion. At the end of a week the bowels were said to have been opened on an average from two to three times a day. There was then no petroleum emulsion in the dispensary, and the child was given 1½ drachms of the chalk mixture three times a day, but at the end of the second week the diarrhœa was nearly as bad as before treatment was commenced. One grain of beta-naphthol was added to 2-drachm doses of the chalk mixture, but at the end of another fortnight the bowels were still moved eight or nine times a day. The mixture containing 1 drachm of petroleum emulsion was then given again, and the frequency of the motions immediately fell to twice a day. Theodore Fisher (*Lancet*, Feb. 1, 1902).

DIARRHŒA, SUMMER.

A study of 682 cases among outpatients, with 21 deaths, shows that the large infant-mortality of summer diarrhœa is preventable. The illness may be prevented in a large degree by good milk, properly cared for, and properly given at definite intervals. A large mortality is to be prevented by discarding all forms of milk after the first symptom of gastro-intestinal derangement appears.

No milk is allowed until the stools approximate the normal, which may mean a non-milk diet for from forty-eight hours to several weeks.

When milk is discontinued, the most

suitable and the safest substitutes are cereal waters and gruels. In nearly every one of the above-mentioned cases barley-water was used. When this did not answer, rice-water was given. The directions were for Robinson's barley-flour, 2 tablespoonfuls, to a pint of water; this is boiled twenty minutes, and water added so that there is one pint when the cooking is completed. Additions in the form of liquid non-milk nourishment may be added to change the taste and give the child a variation in the diet. A favorite mixture is 4 or 5 ounces of barley-water and 1 or 2 ounces of broth, beef, mutton, or chicken. One-half teaspoonful of beef-juice added to a cereal water often makes a desirable change. The taste of the substitute must vary or the child will soon tire of it. Broths or beef-juice must not be added in too large amount, as in some a decidedly laxative effect will result. Brandy and whisky should not be given to a child with summer diarrhœa. The white-of-egg mixture has been discarded, for the reason that many children fail to digest it, and passing unchanged into the intestine, it can form as good a putrefactive culture-medium as milk.

Dextrinized gruels have a useful field in the diets for summer diarrhœa. It is impossible to give a stronger barley-water than 2 even tablespoonfuls to a pint of water for any length of time; twice this amount may be taken if the cereal is dextrinized.

The substitute diet is allowed to be given at two-hour intervals if the child will take and retain it in such quantity as he was accustomed to take of milk in health. Boiled water is given at any time.

The mother is told to keep the patient in the largest room in the apartment. If there is fever she is instructed to give

spongings with water at 80° F. for fifteen minutes several times a day. In resuming the milk diet, it must be given gradually at the outset, by using from 1 to 4 drachms with each feeding of the barley-water, making a slight increase every day or every other day as the condition of the stools allow. The cereal gruel used as a diluent does not permit of a larger amount of milk being given at the commencement of the milk-feeding, neither does its use permit of a more rapid increase in the milk-strength than if plain water is used.

In 28 cases a return to milk was followed by relapse. In 9 there was repeated relapse, and milk could not be given in 1 case until one month had passed; in 1, until six weeks; in 2, until four months; and in 3, until three months.

Calomel is preferred in a case in which there is vomiting or a tendency thereto, and, when the case is not particularly urgent, $\frac{1}{20}$ to $\frac{1}{10}$ grain is usually prescribed at hourly intervals.

Castor-oil is given in the acute septic cases with infrequent stools and without stomach involvement, in which a prompt washing out of the small intestine is desired.

Bismuth subnitrate was given in all of the cases treated. It was never given in less than 10 grains every 4 or two of the waking hours, regardless of the patient's age. When given persistently in this large amount it is a remedy of immense value. In order to be of service, however, it must produce black stools. If it passes through the bowel unchanged, no influence whatever will be exerted upon the intestinal contents. This is explained in the absence of sulphureted hydrogen in the intestine. In such cases the sulphur is supplied in the use of precipitated sulphur, a 1-

grain powder being given with each dose of the bismuth; the bismuth is continued in the large doses until the child is ready for milk, and then the dosage is diminished one-half and continued until full feeding is possible.

The indications for the use of opium are pain, tenesmus, and frequent stools. In a severe or even in an average case in which there is systemic poisoning, evidenced by fever and considerable prostration, four or five passages a day are desirable. This number of stools maintains drainage.

Irrigation of the colon has been overdone. A child who is having from ten to twenty loose, watery discharges in twenty-four hours is quite effectively washed out, and does not require more. The cases which are benefited by the washing are those patients who have a moderate number of green, mucous stools with or without blood. The colon should never be washed oftener than once in eight hours, rarely as often as this; once in twelve hours accomplishes considerable and does no harm. A normal salt solution may be employed. In case there is blood, a 1-per-cent. solution of tannic acid is used. The solution selected is used lukewarm. If there is high fever, it may be used as cold as 60° or 70° F.; in the very weak, with subnormal temperature and marked prostration, the solution is used at 110° F. C. G. Kerley (New York Medical Journal, April 26, 1902).

EPIDURAL METHOD AND ITS INDICATIONS.

If one injects under pressure a colored fluid into the epidural space at the level of the sacral canal, it will ascend to the foramen magnum, where it will stop abruptly; the injection will remain ex-

clusively intravertebral, and will not enter the subarachnoid spaces or come in contact with the nerve-substance. However, if the injection be made at the lowest point of the sacral canal, the fluid will stain the pelvic cellular tissue

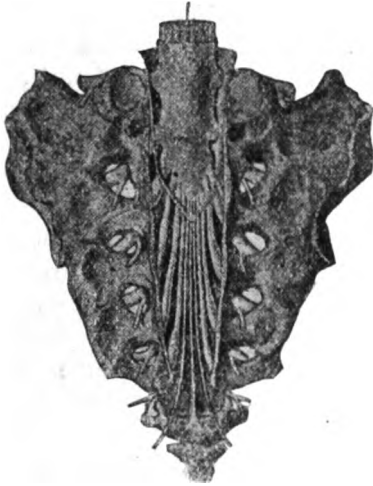


Fig. 1.—Contents of the sacral canal.

and the ischio-rectal fossas. Puncture of the sacral canal is exceedingly easy and devoid of danger. The patient being placed in the lateral prone or "scorching" position, the entire region is disinfected as for any elementary operation. The small Tuffier needle for subarachnoid injection may be used, but a smaller, more flexible, steel needle is to be preferred. The following landmarks should be carefully determined: The last two postero-internal sacral cornua are easily felt under the skin at a point situated 1 or 2 centimeters above the intergluteal fold; at this level there is a triangular space closed by the sacro-coccygeal ligaments, limited laterally by the sacral cornua and above by the median sacral cornua. In many individuals the space can be located by simple inspection: a triangular, flat surface is seen just below the convex, bulging ridge

formed by the first sacral vertebra. In stouter patients, particularly in the female, digital exploration becomes necessary to determine the exact position of the three sacral cornua. The distance between the triangular sacro-coccygeal space and the point of the coccyx is from $6\frac{1}{2}$ to 7 centimeters. With a little practice the finger will locate rapidly and accurately the site of puncture. Beginners are apt to make the puncture too low. The middle of the triangular space is the best site for puncture. The needle should be introduced obliquely and in the median line to avoid injuring the coccygeal nerves or ganglions, and then pushed to a depth of 3 to 5 centimeters. Cathelin advises puncture near the upper angle of the sacro-coccygeal triangle, and the introduction of the needle as high as the third sacral vertebra (5 centimeters). The puncture is seldom painful. In rare cases local analgesia may be of service.

Among the analgesic substances used by the epidural route are cocaine, antipyrin, chloroform, tropacocaine, and

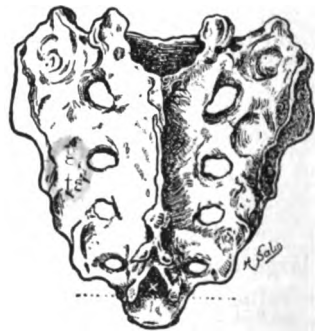


Fig 2.—The cross indicates the sacro-coccygeal space or site of puncture.

physiological salt solution. It is important that the drug be well diluted; an injection should comprise from 6 to 10 centimeters and be made slowly. Cathelin injected 1000 cubic centimeters of salt solution into the epidural space of

dogs of average size, and obtained only temporary clonic convulsions of the hind-limbs. Brocard saw no ill effects from 40 cubic centimeters of salt solution in man. Pressure symptoms are consequently not to be feared.

Shortly after numerous observers had pointed out the multiple dangers following subarachnoid injections of cocaine, various experimenters sought a new and safer route for the administration of analgesic substances. Cathelin first described and used the epidural route. Up to the present time this method has been used principally to check pain, as in sciatica, lumbago, herpes zoster, fulgurant pains, intercostal neuralgia, gastric and vesical crises, etc.

The most favorable results are obtained in cases of sciatica. Here the relief is generally immediate and complete. Immediately after the puncture, while the patient is adjusting his clothing, he finds relief and decided comfort (Brocard). The duration of the anal-



Fig. 3.—The needle is in the sacral canal.

gesia varies with each injection, and especially with the nature of the sciatica; in the cases free from neuritis a series of three injections made at intervals of three days generally proved successful; in sciatica due to neuritis or myelitis

epidural injections gave only temporary relief. Pressure symptoms due to abdominal tumors or pelvic growths were seldom relieved for an appreciable time.

The analgesic condition is apparently, to a degree, independent of the nature of

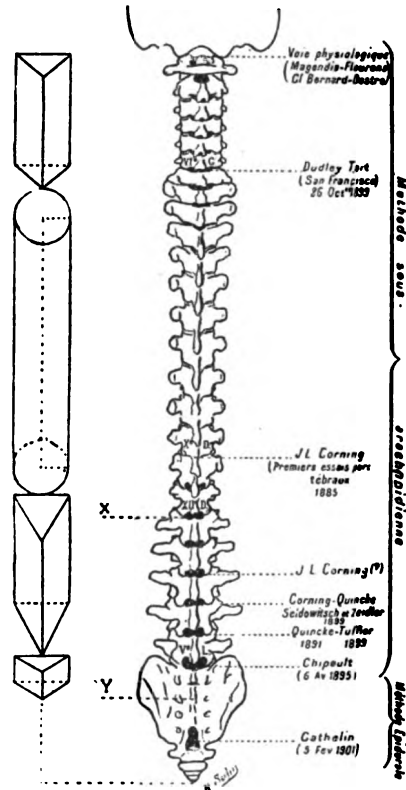


Fig. 4.—I am indebted to Dr. F. Cathelin for the above plate taken from his forthcoming original work on the epidural method.

the substance injected; very cold physiological salt solution (*sérum glacé*) acts more rapidly than cocaine.

Widal reports excellent results from epidural injections of cocaine in pains due to gastric ulcer, and suggests their use in hepatic and nephritic colics. In tabes Sicard obtained marked sedation with cocaine, the duration of the analgesia averaging two days. Brocard reports pronounced relief in intercostal herpes zoster by injections of very cold

physiological salt solution repeated every third day. Begouignan speaks very favorably of the epidural method in tabetic pains. Epidural injections of cocaine have been successfully used as a substitute for morphine when the indications called for large and frequent doses of the latter alkaloid.

In the domain of surgery the epidural route has not given sufficient analgesia for operative work. Chipault alone has been able to perform operations on the lower limbs by this method. Personally it has been tried without success in circumcision. Cathelin reports pronounced and prolonged relief in operable cancer of the rectum, painful accouchements, cystitis, and tuberculous and dry arthritis. In four cases of incontinence of urine due to various causes Albarran and Cathelin obtained almost complete cessation of the incontinence after two or three epidural injections of cocaine. The quantity of cocaine used by this route is generally from 2 to 4 centigrammes in a solution of 1 to 200. Mauclair recently made a series of epidural injections of iodoform emulsion in Pott's disease; but his results have not yet been published. Huchard had used this route to administer various cardiac stimulants. Cathelin believes that the epidural method may be utilized for the majority of soluble medicaments; he strongly urges injections of cyanide or benzoate of mercury in malignant or cerebro-spinal syphilis.

Compared with the subarachnoid route, the epidural method has many advantages from the medical point of view: it is less difficult, absolutely harmless, can be repeated *ad libitum*, and is free from the numerous alarming complications attending the use of the subarachnoid route. Dudley Tait (*American Medicine*, April 12, 1902).

FISTULA IN ANO: ITS RELATION TO PHTHISIS.

The following observations regarding the relation of fistula in ano to phthisis are noted:—

1. Tuberculous fistula of the anus is usually secondary to phthisis.
2. Pulmonary tuberculosis is rarely, if ever, secondary to anal fistula before or after operation.
3. Tuberculosis of the anal region should be dealt with as radically as when it attacks other organs.
4. When the patient's *condition* permits, one should operate on fistulas irrespective of kind.
5. Operation should not be declined in persons suffering from chronic phthisis nor in those who give a family history of tuberculosis.
6. Patients operated on for tuberculous fistula complicated by phthisis, and patients who are non-tuberculous, but suffer from some involvement of the lung, and who rapidly decline after the operation, do so from an inflammation of the lungs induced by the anæsthetic, especially ether. Such accidents have not followed the operations in my personal practice where local anæsthesia was employed.
7. One is justified in discarding the teachings of writers who teach that the cure of a fistula will result in the development or phthisis. S. G. Gant (*International Medical Magazine*, April, 1902).

GONORRHOEA.

If gonococci persist from the third to the fifth day after an acute gonorrhœal urethritis has come under treatment, and if no complications have appeared, and when the urethral mucosa has no para-urethral passages or congenital deformity, an extension of the gonorrhœal

process to the prostate is to be suspected, whether the second urine be clear or not.

To investigate this matter, 651 cases of gonorrhœal urethritis were studied from among dispensary cases. These showed posterior urethritis in 210, or 32 $\frac{1}{4}$ per cent. However, not a small number of these patients came under treatment with established posterior urethritis. In all the 210 cases the prostate was diseased: that is, in 100 per cent. of those with posterior urethritis. In 96 cases of gonorrhœal prostatitis the disease was but eight days or less than eight days old. The diagnosis was based upon the microscopical and bacteriological findings in the prostatic secretion and then upon digital examination *per rectum*.

Examination of the 210 cases referred to showed: Gonococci, 179 times; other bacteria, 20 times; aseptic secretion with numerous leucocytes, 11 times. The presence of numerous leucocytes in the secretion of the prostate and seminal vesicles must be deemed pathological and indicative of prostatitis or seminal vesiculitis. This holds good even when the bacteriological findings are negative.

To render microscopical examination of the prostatic secretion as free from objection as possible, the following method is used: After thoroughly washing the posterior and anterior urethra with a solution of protargol, a sterile endoscopic tube is inserted to the end of the membranous portion and the mucosa in the field is cleansed to absolute dryness. This cleansing is done with sterile cotton tampons. Then the juice obtained by massage is taken from the tube and examined. Sometimes the work is limited to thorough washing of both urethral divisions, and removing the juice from the prostate by massage is avoided by pressure upon the pendulous portion. By this latter manipulation the contents

of the glands and lacunæ of the anterior urethra are expressed, and the results obtained are consequently not free from objectionable features.

The examination by means of the tube must always be followed by washing of the anterior and posterior urethra. E. R. W. Frank (Medical News, April 26, 1902).

Of 151 cases of posterior urethritis coming under personal notice, the prostate was found involved in the entire 151 cases. Of these cases, 111 came under treatment with the prostatitis already present; in 40 it developed during the course of the treatment.

Of the 151 cases, those which had been previously treated numbered 71 cases; untreated, numbered 47; unknown whether treated or not, 33. The disease was a first attack in 64 cases; second or further attack in 70; unknown in 17 of those examined.

In this series of cases this complication had lasted less than one week in 32 cases; one to two weeks in 25; two to three weeks in 19; three to four weeks in 12; over four weeks in 51; unknown duration in 12. Therefore, in 57 cases, or almost 38 per cent., it occurred within the first two weeks, and in 32, or over 21 per cent., within the first week.

It seems to matter little what form of treatment is employed, though it is believed that, with the proper application of the newer gonococcicide remedies, the percentage of cases which develop posterior urethritis and prostatitis will be much reduced, and that, while the form of treatment may have a bearing among the causative factors, it is not the sole cause, nor even the principal one.

Any condition or measure which produces congestion of the deeper urethra, or which forces the living germ into the posterior urethra and the ducts of the

prostate, favors the development of posterior urethritis and prostatitis. Fred-eric Bierhoff (New York Medical Journal, Dec. 28, 1901).

Gonorrhœal endocarditis can no longer be considered a pathological curiosity, to be recognized only in the post-mortem room. In placing the condition upon a firm scientific footing the most rigid tests—based on unassailable clinical, bacteriological, and pathological evidence—have very properly been exacted before admitting a case to be proved due to this cause. This very rigidity of proof, obviously obtainable only in cases coming to autopsy, has quite probably led to an overestimation of the seriousness of the prognosis in these infections. Naturally milder cases, going on to recovery, were excluded from among the properly authenticated cases, and this tended to the general conclusion that all cases of gonorrhœal endocarditis are fatal. If such clinical evidence considered sufficient for the diagnosis of other diseases were accepted with regard to this it could readily be shown that not infrequently endocarditis, with symptoms of general infection, develops during an attack of gonorrhœa and that the patient subsequently recovers. Gonorrhœal infections of joints, fascial and tendon sheaths, in which the organisms have been found, are familiar examples of involvement of distant parts through the circulation, wherein recovery takes place. It is important clinically to bear in mind the possibility of cardiac affections, with symptoms of general systemic infection occurring during the course of gonorrhœa. The condition is most likely due to infection by the gonococcus itself, though in a given case, without having been able to cultivate the organism from the blood-stream, it will be impossible to say definitely that it may not be due to

some other of the pyogenic germs. H. B. Anderson (Canada Lancet, April, 1902).

When gleet has lasted for a long time, and it is complicated with chronic prostatitis, with well-directed treatment, one can do a great deal of good, but a complete recovery in some cases is difficult to obtain. In certain cases merely a simple examination produces so much irritation that the patients are compelled to remain in bed; but even under these unfavorable conditions one is able to benefit them. It is a question of patience on both sides in order to obtain the best result. A few treatments may be of great advantage in one case, but in obstinate and neglected cases it is necessary to persevere. The patient must observe a strict regimen in association with the treatment. He must abstain from alcoholic liquors. Dancing, as well as horseback-riding and the use of the bicycle, should be forbidden. In regard to the sexual act, it is better to suppress it as long as possible. With these rules of regimen, one can begin treatment confident of being able to attain, in most of the cases, a complete success and in a few cases a marked improvement. In general, the prognosis is more favorable in recent cases than in old and inveterate cases, and the chances of recovery are better in cases not complicated with stricture and with nervous symptoms. A. Ravogli (New York Medical Journal, Jan. 18, 1902).

Prophylactic treatment consists of irrigation of, first, the anterior, then the entire, urethra, at first twice, later once, daily, with a warm, $\frac{1}{2}$ -per-cent. solution of protargol, without the use of a catheter. This is only of use in cases of anterior urethritis. Care must be taken to avoid forcible injection. In addition to this, bed-rest, where this is possible; bland, yet nutritious, diet; attention to

the bowels; avoidance of all alcoholic drinks and of sexual excitement. Blennorrhetics or narcotics are seldom necessary when using the gonococcicide remedies.

Should the patient come under treatment with an already turbid second urine, or should prostatitis develop during the course of treatment, then irrigations alone will not cure the case. Therefore massage of the affected gland must be employed in addition to irrigation of the urethra. In massaging the finger is preferable to any instrument.

It is wise in every case to precede the massage by an irrigation of the entire urethra, without the catheter; also the treatment should be gently applied. Although gentle, the massage should be none the less thorough, and continued until pressure expels no more secretion. Then the entire urethra must again be irrigated. At times no discharge appears at the meatus after massage, but flows back into the bladder. One may satisfy himself with regard to the efficacy of massage, in these cases, by an irrigation of the entire urethra. The fluid, after having passed into the bladder, is voided by the patient into a glass vessel. Here it will be found to have become distinctly turbid, and examination will show this turbidity to be due to the prostatic secretion.

Massage should be applied in every case of prostatitis which is not complicated by acute, general symptoms, such as decided febrile movement. Where fever is present, irrigations alone should be employed until its subsidence. Even prostatic abscesses which have opened into the urethra may be definitely cured by this procedure, though at times it becomes necessary to incise from the perineum. In the interstitial, or phlegmonous, forms of the disease it is well to

follow Goldberg's advice: *i.e.*, better to begin massage a little late than too early.

Massage should always be accompanied by treatment of the entire urethra by the physician. It may be employed daily or less often according to the acuteness of the process and the ability of the patient to bear it. Personally it is employed daily or every second day in sessions of not over two minutes. The treatment of the prostatitis should be continued, even after the definite disappearance of gonococci, until this also is cured.

An additional aid in treatment is the use of the rectal cooler, or rectal psychrophore. In the catarrhal type cold water may be employed to advantage with this instrument; in the follicular and interstitial forms, preferably as hot as the patient can agreeably bear it, in one or two sittings of from ten to fifteen minutes daily. In the later stages, as in the more protracted catarrhal cases, alternating hot and cold water during the sitting; the electrical current may also be of benefit. The urethral psychrophore should never be employed until all micro-organisms have definitely disappeared from both urethral and prostatic secretions. Faradic electricity and massage may be combined by means of an ingenious arrangement attached to the massaging finger, constructed by Hogge, of Liege, or its modification by Frank, of Berlin.

In addition to local, general treatment is also indicated. This consists of care to avoid exposure or chilling, attention to diet and to the bowels, warm hip-baths at night and especially tonic treatment. In addition to the usual tonic drugs, hydrotherapeutic measures, general massage, and judicious exercise are of value. Frederic Bierhoff (*Medical News*, Dec. 28, 1901).

The course run by a gonorrhœa may

be divided into four periods: (1) the period of incubation; (2) the acute stage; (3) the subacute stage; and (4) the chronic stage, known generally as gleet. The following constitutional treatment is of use in the first three stages, viz.: rest from all active exercise and sexual excitement; abstinence from alcohol, coffee, spices, and salt food, and possibly from tobacco; the free administration of diluents, a daily purge, and a hot sitz-bath night and morning, if obtainable. Sandal-wood oil in doses of from 20 to 30 minims three times a day, preferably in the capsule form, may be given combined with an alkaline and sedative draught, such as bicarbonate of soda and belladonna or of solution of potash, hyoscyamus, and buchu. Local treatment is more important, however, in the treatment of this disease than the administration of medicines by the mouth.

Should the medical attendant be fortunate enough to see the case within a day or two of contagion and when only a certain degree of heat and irritation is complained of, together with some meatal redness and mucoid discharge, he is justified in endeavoring to cut short the attack either by the application of a caustic solution or by the injection of some strong antiseptic, as, for example, a solution of perchloride of mercury (1 in 2000), a 2-per-cent. solution of mercuriol, or a solution of nitrate of silver (5 grains to the ounce), to be repeated in weaker strengths if necessary. The patient should be directed to urinate immediately before the injection. Strong solutions of nitrate of silver—as, for instance, from 10 to 20 grains to the ounce—may be applied to the anterior urethra through a urethroscopic tube by means of a cotton-wool swab. This application, as well as strong injections, may be made painlessly if the urethra is first rendered

anæsthetic by the injection of cocaine or eucaine. These caustic and antiseptic applications may be changed for astringents in two or three days if the irritation is diminishing. General treatment on the lines already given should run concurrently. Another method of much service for the rapid cure of what is evidently a commencing gonorrhœa is urethral irrigation, by means of which the canal is flushed out from behind forward with half a pint of some weak antiseptic wash,—such as borax, boric acid, or permanganate of potassium,—repeated every two or three hours. For this treatment to be properly carried out confinement to bed or room is necessary and irrigation should be continued, though less frequently, through the night. By either of these methods a week or ten days will probably suffice to put an end to all trouble.

For the second, or acute, stage, most medical men are of opinion that treatment should be chiefly general. With a view to render the urine non-irritating large quantities of fluid should be taken, such as hot water, milk-and-soda-water, barley-water, and weak tea. One or other of the following mineral waters is usually beneficial, viz.: Contrexeville, Wildungen, Vichy, and Kronenquelle. The patient should be encouraged to micturate frequently, even rising at night for the purpose. Where copaiba, cubebs, and santal-oil disagree, methylene-blue, urotropin, or salol may be substituted. Hot sitz-baths at this stage are of the greatest comfort. Complications, such as retention of urine and chordee, may require the attention of the practitioner.

After the lapse of about a fortnight or possibly longer the acute stage will have subsided and the discharge will have become thinner and more muco-purulent. When all pain on micturition has ceased,

local treatment may be commenced in the form of injections, retrojections, and irrigations. In the majority of cases urethral injections as carried out by the well-known small glass syringe will suffice, provided that the inflammation has not extended beyond its reach, viz.: into the membrano-prostatic urethra. When it is limited to the anterior urethra any of the following may be used with advantage: sulphate of zinc (1 grain to the ounce), liquid extract of Canadian pine (1 drachm to the ounce), nitrate of silver ($\frac{1}{4}$ grain to the ounce), and either of the more recent preparations, viz.: protargol (1 to 2 per cent.) or mercuriol ($\frac{1}{2}$ to 2 per cent.). Where the deep urethra is involved, as shown by the "wash-out" test, nothing equals irrigation of the bladder and urethra as advocated and carried out by Janet and Valentine. By this method, if employed night and morning, the patient is usually well in a fortnight or three weeks.

In chronic gonorrhœa, or gleet, whether shown by a sealing of the meatus, a slight discharge of muco-pus often only seen on rising from bed, or by shreds in the urine, a thorough examination should be made with the inflating urethroscope as supplied by Schpall. Although aerial distension modifies the appearance of the flaccid urethra, it certainly facilitates the discovery of lesions, such as stricture, inflamed follicles, granular patches, adventitious pouches or pockets, and papillomata, and through its tube one can successfully treat the majority of these. When a gleet has lasted for six months, especially if there have been previous attacks, the urethra should be examined for stricture. For this purpose the exploring bougies of Otis are excellent. Should a stricture be found, a urethroscopic examination may be unnecessary, and treatment directed to the

cure of the stricture should be undertaken forthwith.

Granular patches of congested areas of considerable frequency in long-standing cases are met with chiefly in the bulbous urethra, and can be satisfactorily treated by the application of nitrate of silver on a woolen swab, which may also suffice for the cure of inflamed follicular openings. Warty growths should be curetted, and small follicular abscesses, whether of Littre's glands or those of Cowper, may be treated either by electrolytic puncture or intra-urethral incision.

For chronic posterior urethritis the following methods suggest themselves: the passage of large-sized steel sounds, possibly coated with some tenacious ointment, electrolysis, Janet's irrigation, instillation of some silver salt, or even the application of lunar caustic itself. For chronic prostatitis or vesiculitis where muco-pus is pent up, to be discharged at intervals, nothing is equal to massage carried out by a finger in the rectum. F. S. Edwards (Lancet, April 12, 1902).

The treatment on which most reliance is placed is the local treatment. The posterior urethra must be washed out with some force, and this object can be attained by means of lavage, which can be done with or without a catheter. For a recent acute anterior urethritis the lavages by the method of Janet are very beneficial, but for a chronic posterior urethritis irrigation through a recurrent catheter is much more desirable. The fluid personally used is a solution of permanganate of potassium, 1 to 5000. In a chronic case, where infiltrations of the submucous layers have already begun, lavage, although useful, will not bring about recovery. An application of silver nitrate on a determined region of the urethra is better made by means of

the urethroscope, with which the cauterization can be limited, than with instillations.

In order to produce the reabsorption of the infiltrated patches, pressure, which is practiced by means of sounds, must be resorted to. In a large number of cases the meatus is the narrowest point of the urethra, and in consequence it is necessary to split the meatus in order to be able to introduce a sound capable of producing pressure in the deep portions of the urethra. The sounds are introduced once a week, their caliber being gradually increased, and they are left in for five minutes.

The application of electrolysis is also done with a view of producing the absorption of the infiltration. For several years in personal cases some special sounds of different diameters, from 18 to 24, covered with rubber, leaving a metallic tip, have been used. The sound is placed in the infiltrated point and a current of from 12 to 20 milliampères is sent, the tip of the sound being gently moved up and down. The patient holds in his hand the sponge attached to the positive pole. The electrolytic action of the current on the tissues is rather remarkable. When the sound is removed a quantity of white, milky fluid oozes out from the meatus, which has come out of the infiltrated tissues. In this way the combination of pressure is obtained together with the electrolytic action. This application is not painful; in the posterior urethra there remains a little irritation, which lasts for two or three days. The gleet discharge at first is increased and then subsides for some days. During the treatment two or three electrolytic applications should be made.

Dilators are to be applied in cases of deep lesions, the dilatation being accomplished gradually and gently. The

dilatation is made without using the least violence and after rendering the urethra non-sensitive by injecting a 2-per-cent. solution of cocaine or eucaine. The instrument is introduced into the urethra in the same way as an ordinary sound, and when it is brought into position, by turning the screw gently, the branches are opened and dilatation begins. When the patient notices a slight sensation of tension and pricking, then dilatation must be stopped. When the disagreeable sensation is over, then dilatation is begun again, and kept up until the patient notices the pricking, reaching thus the required degree of dilatation. The instrument is left for a few minutes, and the degree of dilatation is noted in order to have it as a rule for successive sittings.

In order to determine the mode of action of the dilators, the urethroscope has been introduced immediately after the dilatation. This has revealed small, longitudinal fissures a few millimeters in length all around the infiltrated surface, which are tears produced on the mucosa, especially in the vicinity of the excretory ducts of the glands. These tears occur only in the infiltrated surface of the urethra, and after a few days are completely healed up without leaving any trace. From these cicatricial points the process of reabsorption takes place which will restore the mucous membrane of the urethra to the normal condition.

The dilatation is repeated at intervals of one or two weeks, in order to give time to these fissures to heal. In the meantime the patient may continue his injections with a mild solution of permanganate or boric acid, and the urethra can be treated with a solution of silver-protein or nitrate of silver until every vestige of discharge has completely dis-

appeared. A. Ravogli (New York Medical Journal, Jan. 18, 1902).

The treatment of gonorrhœa in women is preventive and curative. In the first place, no man with a stricture should marry before he has been thoroughly cured. Many others marry when suffering from a gleet discharge, thinking the discharge innocent because it produces no acute symptoms in them; but this discharge often contains gonococci. No man suffering from any of the sequelæ of gonorrhœal urethritis should marry. Much more good can be accomplished by education than by legislation at the present time, and it is the duty of all physicians to educate the people in this matter.

The curative treatment of gonorrhœa in women consists of rest, thorough cleansing by douches containing some antiseptic solution, and local applications. If the vagina or vulva be affected, it should be douched every three or four hours with 1 to 5000 bichloride solution or $\frac{1}{4}$ -per-cent. lysol solution. Local application of 1-per-cent. nitrate of silver or 2-per-cent. protargol should be made to the urethra once every twenty-four hours. The solutions applied to the vulva, vagina, and cervix should be stronger. For this purpose tincture of iodine, or 5-per-cent. nitrate of silver may be employed. These applications should be made once a day for three or four days and then every second day until all evidences of inflammation have disappeared. If the cervix is enlarged and congested it should be depleted by local blood-letting once a day for two or three days. Should an abscess form in the vulvo-vaginal glands it should be opened and treated in the usual way.

Cases of acute gonorrhœal endometritis should be curetted as soon as possible. Some operators are opposed to

this procedure, but complications do not follow a well-performed curettage nearly as often as they do intra-uterine irrigations or any other method of non-operative treatment. If the patient will not consent to operation, intra-uterine irrigation is the best method of treatment. If this is begun before the gonococci have penetrated the endometrium a cure may result, but does not always follow. One may irrigate first with a 1 to 10,000 bichloride solution, to be followed immediately by a saturated solution of boric acid. This treatment should be repeated every twenty-four hours. In some cases the cervical canal is so small that irrigations cannot be given. Vaginal douches of $\frac{1}{4}$ -per-cent. lysol solution at a temperature of 110° to 120° F. should be given for fifteen to twenty minutes every two hours.

In cases of pyosalpinx, unilateral or bilateral; in cases of genital sclerosis; and in those cases in which conservative treatment has failed a complete vaginal hysterectomy should be done, using forceps instead of ligatures to control hæmorrhage. J. B. Killebrew (Medical News, Jan. 25, 1902).

KERNIG'S SIGN, EXAMINATION FOR.

One hundred cases, all non-meningitic, both febrile and afebrile, examined for the presence of Kernig's sign. In every case both legs were examined for the sign in both erect and recumbent postures, excepting when the condition of the patient would not admit his sitting up. In 5 cases Kernig's sign was present; 3 showed the sign unilaterally, and 2 bilaterally (1 case of uræmia and 1 case of typhoid fever). In both of these cases the sign could not be obtained after recovery. Kernig's sign persisted in the 3 remaining cases,—2 cases of right-sided

hemiplegia, and 1 of typhoid fever,—and in all it was obtained on only one side. In both cases of typhoid fever which showed the sign, delirium was marked and persistent. This predominance of mental symptoms may have been an indication of febrile or toxic cerebral irritability, which might have in some manner been accountable for the presence of the sign.

In no positive case was there any joint involvement either osseous or tendinous; also in all these cases the legs could be fully extended, and when the thigh was flexed the tendons became hard and tense. No case was called positive in which the angle was more than 120 degrees. The only case in which the presence of Kernig's sign might have proved misleading by resembling meningitis was one in which there were delirium, elevated temperature, rapid pulse, and a red eruption over the chest and abdomen, with hyperæsthesia of the arms and legs. A leucocytic count of 5600, with positive Widal reaction, and two persons ill with typhoid fever in her home at the same time made the diagnosis clear. W. G. Shields, Jr. (*Amer. Jour. of the Medical Sciences*, May, 1902).

LEUCOCYTES, VARIATIONS IN.

The percentage of the different forms of leucocytes counted in a stained blood-film is of great diagnostic value in differentiating typhoid and malarial fevers, and is easily ascertained.

An increase of the lymphocytes to 40 per cent. or over, without any increase in the large mononuclears, points to typhoid as against malarial fever.

An increase in the large mononuclears to about 12 per cent. and upward, especially during the remissions of the temperature, strongly indicates malaria as against typhoid fever. This change

is of great value when parasites are absent from the blood.

The presence of myelocytes in any number, such as from 1 to 5 per cent., points to malaria as against typhoid fever.

A high degree of anæmia, such as a reduction of the red corpuscles to below 3,000,000 per cubic millimeter, is much more frequently met with in malarial than in typhoid fever.

A very great reduction in the total leucocyte-count, such as to below 2000 per cubic millimeter, is much more frequently met with in malarial than in typhoid fever, while the proportion of white to red corpuscles in malaria is not infrequently less than 1 to 2000, which is rare in typhoid fever.

Leucocytosis can be detected by the presence of a great excess of white corpuscles, upward of 80 per cent. of which are polynuclears, in a stained blood-film, and is often of service in excluding malaria in intermittent fever due to liver-abscess or other local inflammation. Leonard Rogers (*British Medical Journal*, April 5, 1902).

LEUCOCYTOSIS, THE CLINICAL SIGNIFICANCE OF.

Suppurative pleurisy produces a very definite leucocytosis of the polynuclear finely granular variety.

On evacuation the leucocytosis does not disappear with the same rapidity as is noticed after the drainage of other abscess-formations.

Gross accumulations of pus after evacuation of purulent pleurisy would, in all probability, be detected by regular blood-examinations. After the crisis of pneumonia, the leucocytes usually fall to their normal standard in the course of a day or two. Should this not occur, it suggests

the possibility of such complications as empyema, lung-abscess, gangrene, or retarded resolution.

Pent-up suppuration of the usual pyogenic character is almost constantly associated with a leucocytosis. Not only is there a great increase of the white blood-corpuscles at the seat of the inflammation, which acts as the first line of defense, but also there is a pronounced increase of the circulating leucocytes, which act as the reserve force, upon which further demand may be made. The local leucocytosis, or first line of defense, cannot easily be determined, but the general leucocytosis, or reserve force, can be accurately measured without the least difficulty. And this general leucocytic increase follows so closely the precise progress of the local suppuration that its regular estimation furnishes an important clinical guide in the study of this common surgical malady. In many deep suppurations, especially those associated with abdominal organs, the labor entailed by regular blood-examinations would be amply repaid. In obscure conditions the leucocyte-record might suggest a clue to its complete elucidation, it might settle the diagnosis, and it would frequently obviate that fatal error of labeling obscure cases associated with elevated temperature as "tubercular." J. T. Hewetson (Birmingham Medical Review, April, 1902).

MASTOID OPERATION, INDICATIONS FOR.

The main features regarding the diagnosis of mastoiditis may be summarized as follows:—

1. Mastoiditis is always subsequent to purulent inflammation of the middle ear.
2. Tenderness of the bone is an important symptom when present, but the

mastoid may be full of pus, with absolutely no tenderness.

3. Bulging of the canal-wall is a most important symptom.

4. The absence of temperature is no guide whatever.

5. Improvement in the hearing is usually indicative of subsiding inflammation in the middle ear.

6. The operation is safe; delay may be dangerous. Philip Hammond (American Medicine, April 12, 1902).

OCULAR AFFECTIONS ASSOCIATED WITH GLYCOSURIA.

A summary of the study of the ocular affections associated with glycosuria with special reference to central amblyopia may be noted as follows:—

1. Diabetes mellitus or other disturbance of the carbohydrate metabolism may affect any portion of the visual apparatus.

2. The ocular changes may be produced by chemical or physical means, or indirectly through the associated general debility.

3. The ocular affections may vary in intensity from a slight failure of accommodation to a formidable hæmorrhagic retinitis and total optic-nerve atrophy. Minor visual disturbances are often made worse by fatigue or increased cardiac action, and may improve after prolonged rest or decrease of vascular tension.

4. The intra-ocular disturbances may be exclusively unilateral, and there is never seen, ophthalmoscopically, inflammation of the optic nerve: important differences from the changes in albuminuria, syphilis, and other blood-dyscrasias.

5. It is not uncommon to find albuminuria co-existent with glycosuria, and the retinal changes may present a mixed picture, or a typical albuminuric reti-

nititis may be present in a patient with diabetes.

6. Central amblyopia may exist in glycosuria entirely independent of the toxic influence of alcohol and tobacco, or in patients addicted to the habitual use of these substances; this may be the prominent factor in causation. In these cases the initial lesion may be in the ganglion-cells of the retina, the inflammation of the "papillo-macular fibers" of the temporal half of the optic nerve being secondary to the retinal changes.

7. In chronic cases of glycosuria, with the exception of cataract, the ocular symptoms are often present when the constitutional and urinary symptoms are not marked.

8. The ocular symptoms may be the first to lead the patient to seek medical advice. Therefore glycosuria should be suspected in the following conditions:—

- (a) Premature presbyopia.
- (b) Unexplained mydriasis or cycloplegia.
- (c) Sudden changes in the refraction, particularly marked development or increase of myopia past middle age, without cataractous changes.
- (d) Intractable iritis.
- (e) Cataract in young or middle-aged persons. An examination of the urine is advisable even in cases of senile cataract, as the etiology has a bearing on the prognosis of operation.
- (f) Retinitis, particularly of the hæmorrhagic variety.
- (g) Unexplained optic-nerve atrophy.
- (h) Sudden and marked amblyopia, particularly central, without visible fundus-changes.

9. The prognostic significance of the ocular disturbance is not definitely established, on account of the great difference in pathogenesis, severity, and ultimate issue of the numerous forms of

glycosuria. Even in well-marked cases not only many formidable eye-lesions improve, but the patient's general health may be restored. Again, the ocular symptoms may remain stationary and the general health improve, or a case of diabetes mellitus may proceed rapidly to a fatal termination without showing marked ocular disturbances. Hæmorrhagic retinitis and amaurosis preliminary to coma are the most serious symptoms. The ophthalmoscopic observation of greatest value in prognosis is the state of the retinal vessels, as this may be taken as an index of the patient's general vascular condition. W. L. Pyle (*American Medicine*, April 19, 1902).

OSTEITIS OF THE KNEE, EFFECT OF.

The results of study tend to show that:—

1. Gonitis in childhood usually causes lengthening of the affected limb when approximately straight, and this may persist for eight years or more.

2. This lengthening is due mainly to overgrowth of the femur, and may often be detected within six months of the onset. In adolescents and adults, after cessation of active disease begun in childhood, the femur and limb may be considerably shortened.

3. The tibiæ are usually equal in length in the early stages; afterward the affected tibia may be slightly longer for a time, but is more often shorter, even in the first two years; this shortening increases in the older cases, and after subsidence of inflammation.

4. With limbs of equal length and a duration of disease of several years, the femur of the affected side will be found longer, the tibia shorter, than its mate.

5. The feet and patellæ show a differ-

ence in favor of the sound side after a year's duration, and often before.

6. Stimulation of growth at the lower end of the affected femur, and more rarely and in less degree at the upper end of the tibia, is usually accompanied by retarded growth in other parts of the limb; growth in the femur itself is finally retarded, and the final result, after many years, may be considerable shortening of the femur, tibia, and limb. H. L. Taylor (*New York Medical Journal*, April 19, 1902).

OTITIS MEDIA.

No disease is any more significant than left otitis media purulenta in its bearing upon speech-center disturbances. The chief considerations are summed up as follows: Abscess of the temporal lobe secondary to otitis media purulenta which causes speech-disturbances is only exceptionally a lesion of the true centers of speech. As a rule, the interruption is only of the association-fibers. First in frequency come those fibers which connect the sound-picture-center with the true perception-center. More rarely the break is between the sound-picture-center and the writing-center. The so-called optic aphasia belongs really under the head of physical blindness, and not to true aphasia. Temporal-lobe abscesses often involve the life of the patient. No symptom is more important than signs of aphasia. The surgeon must determine whether the speech-difficulties began definitely with the other symptoms of the disease or were directly associated therewith. The first important feature is whether the patient can give undisturbed utterance to his own concepts and perceptions by always readily and precisely selecting and uttering the suitable words. Next, he must test the

subject's understanding and reception of loudly-spoken language. Finally, he is concerned with the reception, understanding, and expression of writing. If disturbances of the writing-center are present, and especially if psychical blindness is associated with it, the site of the abscess is probably rather posteriorly situated in the temporal lobes. W. Merckens (*Zeitschrift f. Chir.*, Aug., 1901).

The majority of grave complications of purulent otitis media result from the neglect of treatment of otorrhœa. In the majority of cases, aural polypi, which may be mucous, fibrous, or myxomatous, are caused by purulent otitis media. Removal of the polypus is the treatment to be adopted, but before attempting its removal the cavity of the tympanum should be purified as far as possible by the use of a 1 to 3000 solution of biniodide of mercury in rectified spirit. Purulent inflammation of the mastoid antrum and mastoid cells, if very acute, should cause immediate opening of the mastoid antrum. Operation upon the mastoid is recommended in cases of chronic otorrhœa associated with (1) continuous or frequent pain in the ear, mastoid, or side of head, particularly when such pains are aggravated by percussion over the mastoid process; (2) total loss of hearing, with frequent attacks of giddiness suggesting purulent involvement or destruction of parts of the internal ear; (3) caries or necrosis; (4) polypi and granulations that recur after removal, and resist careful treatment with the biniodide and spirit ear-drops; (5) caseous deposits and cholesteatoma; (6) facial paralysis, which is so frequently due to caries or necrosis of the facial canal; (7) distinct symptoms of intracranial abscess, meningitis, or infective thrombosis of the lateral

sinus. The most fatal complication of purulent otitis media is purulent leptomeningitis. The symptoms are frequently modified by the co-existence of abscess of cerebrum or cerebellum, or an extradural collection of pus. Pyogenic lateral sinus thrombosis is more common than is generally considered to be the case. The symptoms are headache and vomiting, pain on tapping over the situation of the lateral sinus and pain on pressure over the upper two or three inches of the course of the internal jugular vein and sometimes a hard swelling, the size of the little finger, in the upper part of the course of that vein. The temperature fluctuates between 105° and 106° and 100° F.; the pulse is very quick, 120 to 150 per minute. Rigors, œdema of the mastoid and occipital regions, icterus, dry and dirty tongue, and very foul breath. Diarrhœa is constant in the later stages. Cough is noticed for a day or so, then a sudden sharp pain in the chest, which lasts for half a day, and then subsides. This is repeated perhaps in two to six other parts of the lungs, and a few hours later the characteristic prune-juice expectoration makes its appearance. H. F. Waterhouse (Edinburgh Med. Jour., Sept., 1901).

In otitis media mucosa iodide of potash may be given in increasing doses. But the treatment *par excellence* consists of incision and evacuation of the tympanum, repeated if necessary and always accompanied by regular politizerization and conscientious treatment of the naso-pharyngeal condition. Before incision the external auditory canal should be made as nearly aseptic as possible by syringing with a tincture of green-soap solution, following this with instillation of absolute alcohol, and then syringing with 1 to 2000 bichloride solution. The

canal is then packed with aseptic gauze and the patient sent back to the waiting-room for half an hour to await the subsidence of the increased hyperæmia necessarily induced by these procedures. The patient is then subjected to thorough cleansing of his naso-pharyngeal cavities. The gauze packing is removed and under good illumination a thorough incision is made with a sterilized knife along the inferior segment of the drum-membrane just internal to its attachment to the annulus. The ear is inflated and the mucus removed by means of sterile cotton pledgets. Finally, the canal is again packed with aseptic gauze, covered outside by a cotton pad kept in place by adhesive plaster. A mild astringent application of a solution of silver nitrate or glycerite of tannin and carbolic acid is applied to the post-nasal mucous membrane. The patient must be seen in from twelve to twenty-four hours and the ear again gently inflated and the gauze packing renewed. After this, a treatment once in every two or three days is all that is necessary. H. A. Alderton (Medical News, Sept. 21, 1901).

PANCREATITIS, CHRONIC INTERSTITIAL.

Conclusions regarding chronic interstitial pancreatitis are:—

1. Chronic interstitial pancreatitis is slightly more frequent in males than in females. Two-thirds of the total number of cases occur between the ages of forty and sixty years.

2. The most frequent cause of chronic pancreatitis is obstruction of the duct of Wirsung, due to pancreatic calculi, to biliary calculi in the terminal part of the common bile-duct, or to carcinoma invading the head or body of the gland.

Duct-obstruction may be followed by the invasion of bacteria, which take part in the production of the resulting lesion.

3. Ascending infection of the unobstructed duct of Wirsung may follow an acute lesion of the duodenum or of the bile-passages, and may cause chronic inflammation. In cases which have given a history of long, persistent vomiting, chronic diffuse pancreatitis may be found at autopsy, and is probably the result of an ascending infection of the gland.

4. General or local tuberculosis is occasionally accompanied by chronic diffuse pancreatitis, affecting chiefly the interstitial tissue of the gland.

5. Chronic interstitial pancreatitis is not infrequently dependent upon the same etiological factors, notably alcohol, which produce cirrhosis of the liver, and in about one-fourth of the cases the two lesions are associated.

6. Following duct-obstruction and ascending infection the lesion affects principally the interlobular tissue, only secondarily invading the lobular tissue, and sparing the islands of Langerhans. Diabetes results only when the lesion is far advanced.

7. Accompanying the so-called atrophic, or Laennec's cirrhosis of the liver, the pancreas is at times the seat of a diffuse chronic inflammation, characterized by diffuse proliferation of the inter-acinar tissue, which invades the islands of Langerhans. A similar lesion accompanies hyaline degeneration of the islands of Langerhans and the condition known as hæmochromatosis.

8. Interacinar pancreatitis is usually accompanied by diabetes mellitus. When diabetes is absent the lesion is of such slight intensity that the islands of Langerhans are little implicated. E. L. Opie (*Amer. Jour. of the Medical Sciences*, May, 1902).

PARALYSIS AGITANS, ADMINISTRATION OF HYOSCINE IN.

Hyosine is probably the most useful drug that has hitherto been tried in the treatment of paralysis agitans. As a rule, it diminishes or arrests the tremor, checks the troublesome restlessness and the desire to change position, and relieves the "hot flushes" and unpleasant sensations of heat. Hyosine is a very powerful drug, and hence must be administered with great care. It is safer to give it by the mouth than to inject it under the skin. Merck's hyosine hydrobromate is probably the best preparation; this should be given well diluted in chloroform-water. A prescription which is useful is $\frac{1}{8}$ grain of hyosine hydrobromate in 6 ounces of chloroform-water. At first 2 teaspoonfuls of this may be given; then 3, 4, or 5 teaspoonfuls. If necessary, the dose may be increased to 6 teaspoonfuls ($\frac{1}{64}$ grain), providing toxic symptoms are not produced. The hyosine is best given in the morning, just after breakfast, and again in the evening (just before going to bed) if the patient is troubled with restlessness and sleeplessness during the night. J. D. Bury (*Lancet*, April 19, 1902).

PARALYSIS, FACIAL, CATARRHAL OTITIS MEDIA (NON-SUPPURATIVE) AS A FACTOR IN.

If exposure to cold, in one way or another, is the cause of most cases of facial paralysis, it probably acts most commonly through the production of an otitis media, whereby the nerve becomes involved either in a direct extension of the inflammatory process to its exposed sheath or through pressure upon it of an exudate.

This being admitted, the form of treatment which offers the most rapid and satisfactory results is a paracentesis

of the tympanic membrane to free the cavity of its abnormal contents.

One should never in any case of facial paralysis neglect to examine the ear. H. O. Reik (Johns Hopkins Hospital Bulletin, April, 1902).

PARESIS.

From a study of one hundred and forty-nine cases of paresis occurring at Blockley Hospital, Philadelphia, it may be said that the forms of insanity most often confused with paresis of the simple form are: (1) the so-called organic dementias, chiefly those due to hæmorrhage, thrombosis, embolism, etc.; (2) presenility; (3) dementia præcox; (4) even epilepsy; and (5) alcoholic insanity.

1. The episodes (apoplectiform and epileptiform attacks, etc.) of paresis are water-falls in the downward current of a malady, leaving a patient weaker in body and duller in mind; and so, when an apoplectiform attack with transient hemiplegia or monoplegia happens to be the first urgent sign of the disease, it is not strange that the subsequent mental and physical decline is sometimes attributed to true apoplexy, etc. A number of the paretic patients came to the hospital with the diagnosis of apoplexy, of brain-tumor, or of gross syphilis of the brain.

2. Hoche, in his paper on the early diagnosis of paresis, says: "In a case of dementia coming on in the late fifties, it is not of much moment to decide whether it be late paresis or early senility": a position disappointing in a scientific German, for, though senility and paresis be similar in their pathology and though they be almost equally hopeless, yet there are peculiar traits in each which make a diagnosis important for its management; and, moreover, the

diagnosis can be made nearly always by the ordinary rules.

3. Dementia præcox (primary dementia) is common up to the age of thirty, and occurs, according to Kraepelin, even in the fifties. Its dominant feature is, like that of paresis, dementia. In dementia præcox the pupils may be unequal; delusions may be present or not; and, when present, they may be as absurd, extravagant, changeful, and "polymorphous" as those of paresis. Moreover convulsions may occur.

4. Epilepsy, beginning in adult life and due to syphilis or alcohol, or beginning after middle life and referable to vascular changes in the brain—these are somewhat rare, and it is well not to make a diagnosis of epilepsy from convulsions occurring after thirty until every care has been taken to exclude paresis. Moreover in one case the possibility was seen of paresis supervening upon true epilepsy.

5. In the above series alcoholism was predicted of fifty-six patients, more often of the simple form; and by "alcoholism" is meant prolonged, habitual overindulgence, not the lately-commenced drinking which is often a symptom of early paresis, arising from the "change of character"—the instability—of the first stage. Two of the women had been morphine *habitués* for years; one man was an absinthe-drinker. William Pickett (Philadelphia Medical Journal, March 29, 1902).

PEMPHIGUS.

Pemphigus never occurs without the bullous eruption which appears in successive crops and never exhibits the characteristics of other diseases. The diagnosis is easy in its fully developed stage, but difficult in its beginning and later stages.

When bullæ appear in a case of syphilis a syphilitic history and antecedents can usually be elicited. The eruption in such cases is almost invariably in children, and is present on soles of feet and palms of hands.

In eczema of hands the bullæ are formed by confluence of vesicles; pemphigus is rare on hands and fingers and skin is not infiltrated. In ecthyma cachecticum the pustules are not true bullæ and ulcerations are deep. In rupia the bullæ are smaller and flatter than in pemphigus; contents are thick and dark and ulcerations deep. Pemphigus foliaceus, when the blebs become scaly, may resemble pityriasis rubra; in the latter there are no bullæ. In impetigo contagiosa the bullæ are never distended as in pemphigus, but are flat. The former is a pustular disease. In bullæ of lepra there is usually cutaneous anæsthesia. The blebs generally leave behind signs of atrophy on their bases. In herpes iris the eruption is rather vesicular than bullous, and disappears more rapidly than the eruption of pemphigus.

Although bullæ appear in urticaria and erythema multiforme, these diseases are easily recognized by characteristic symptoms.

Pemphigus vegetans has sometimes been confounded with syphilis because the eruption in both diseases often appears about the ano-genital region, and the eruption of pemphigus vegetans resembles the condylomata of syphilis. Ulcerations in the mouth also occur in both diseases. In pemphigus vegetans the lymphatic glands are not involved as in syphilis. The condylomata of syphilis rarely spread beyond the region adjacent to mucous outlets as does the eruption of pemphigus.

Scabies of infants and children, which

sometimes is accompanied by bullæ, has a parasite which will determine the nature of the disease. J. W. Grosvenor (Buffalo Medical Journal, April, 1902).

PERNICIOUS ANÆMIA.

Four groups of cases of pernicious anæmia may be distinguished, and in each group the blood characteristics have something in common.

I. Acute Favorable Cases.—1. The symptoms are marked.

2. Red cells are much diminished, but show a tendency to rise.

3. Megaloblasts are atypical and not numerous.

4. Normoblasts are numerous.

5. The color-index is high, but tends to fall.

6. Polychromatophilia is not marked.

7. The percentage of polymorphonuclear cells is high.

8. Myelocytes are absent or scanty.

Course.—A remission to a fairly normal condition, which may be maintained for years.

II. Chronic Cases.—1. Symptoms are not well marked.

2. Red cells tend to remain about one or two million.

3. Megaloblasts are absent or scanty.

4. Normoblasts are absent or scanty.

5. The color-index is generally below one.

6. Polychromatophilia is slight.

7. The percentage of lymphocytes is high.

8. Myelocytes are scanty.

Course.—Apt to be chronic. Patients can work, though they feel weak; and, though febrile attacks, etc., may occur, they have little bad effect. Improvement seldom occurs, but the duration may be for several years.

III. Subacute Cases.—1. Symptoms are fairly well marked.

2. Red cells about one million, showing slow and irregular tendency to rise.

3. Megaloblasts are numerous.

4. Normoblasts are less numerous than megaloblasts.

5. The color-index is high.

6. Polychromatophilia is distinct.

7. The percentage of lymphocytes is high in the absence of fever.

8. Myelocytes are fairly numerous.

Course.—Symptoms improve, and the blood improves to a certain extent. The duration is about two years, but complications may cut it short.

IV. Acute Unfavorable Cases.—1. Symptoms are marked, and there may be hæmorrhages.

2. Red cells are about one million, and tend to remain or go lower.

3. Megaloblasts are typical and numerous.

4. Normoblasts are less numerous than megaloblasts.

5. The color-index is high.

6. Polychromatophilia is marked.

7. Percentage of lymphocytes is high in the absence of fever.

8. Myelocytes may be numerous.

Course.—A fatal termination in a few months. Alexander Goodall (*Scottish Medical and Surgical Journal*, April, 1902).

PNEUMATIC MASSAGE IN AURAL PRACTICE.

It is principally in the treatment of so-called cases of non-suppurative catarrhal otitis with ground-glass drum-head, which is so often the forerunner of sclerosis, wherein pneumatic massage is indicated to improve the hearing, and additionally to control or diminish the accompanying tinnitus, which is probably most often due to labyrinthal pressure. Vertigo, another symptom occasionally complained of, is also at times

a result of pressure: Through its favorable effect upon the cause—middle-ear adhesions, etc.—pneumatic massage is often beneficial in both of these conditions. It also assists greatly in the correction of itching of the external auditory canal, and furthermore is generally instrumental in increasing the secretion of wax when the canal has become too dry, both conditions being concomitant with chronic catarrhal otitis media. Additionally, in hypertrophic cases, inflation by the Politzer method soon becomes more easy of execution. Pneumatic massage has proved of value in suppurative conditions of the middle ear, particularly in cases of long standing, and when employed in addition to the usual line of treatment will often greatly expedite a cure, owing to its mechanical effect in jarring or drawing down discharges from the attic. Edwin Pynchon (*American Medicine*, April 26, 1902).

PNEUMONIA.

Personal views regarding the treatment of pneumonia may be summed up in the following propositions:—

1. No routine drug treatment is of any practical value.

2. Antipyretic drugs and all depressing lines of treatment are especially to be avoided. This includes nauseating drugs, such as tartar emetic and even digitalis.

3. A supporting and—in the widest sense—stimulating line of treatment will generally be attended by the best results. Alcohol should not, however, be prescribed in a routine way: when it is clearly required by the state of the pulse (especially), the temperature, and the tongue, it is invaluable, and the quantity given should be in proportion to the

intensity of the conditions calling for its use. Patients with unimpaired constitutions, and especially the young, generally need none, and are better without it.

4. For relief of the pain in the side, nothing is so good as leeching.

5. In presence of high temperature, refrigeration to the surface by the ice-bag locally or by cold water generally is desirable; the latter is specially indicated, and should be applied vigorously if delirium is a complication.

6. In the case of vigorous subjects, where cyanosis is present and there is obvious engorgement of the right heart, general blood-letting may, with propriety, be practiced. Finlay (Scottish Medical and Surgical Journal, April, 1902).

PSYCHICAL CONDITIONS, ABNORMAL, IN CHILDREN.

A morbid failure of moral control is not uncommon in children with general impairment of intellect; there is, in fact, a congenital limitation of the capacity for the development of moral control associated with a similar limitation of the general intellectual capacity. Except in the lower grades of idiocy and imbecility, where the cognitive relation to environment is absent or extremely defective, there is not necessarily any direct proportion between the moral limitation and the general intellectual limitation. No particular type of idiocy or imbecility can be speedily associated with moral defect; nor is there any evidence, so far as can be judged from a clinical study of these cases, that any particular gross lesion of the brain is requisite to the limitation of moral control. G. F. Still (Lancet, April 12, 1902).

RHEUMATISM, JOINT.

In joint rheumatism the following application is excellent:—

R Menthol, 1 drachm.
Ac. salicylici, 2 drachms.
Methyl salicylatis, 1 drachm.
Alcohol, q. s. ad 1 ounce.

Paint joints briskly with camel's-hair brush, cover with absorbing cotton and oiled silk, and bandage snugly, but not tightly.

So efficient has the above combination proved in personal hands that in by far the great majority of cases of acute articular rheumatism it has been possible to dispense with internal medicines altogether. The salicylic acid and methyl salicylate are rapidly absorbed, and their presence can be demonstrated in the urine. In this way one is enabled to saturate the system with salicylates without disturbing the gastric function. After a few applications the epidermis begins to peel off and the surface becomes tender. When this occurs the application should be stopped for a day or two and an emollient ointment should take its place.

The menthol-salicylate-alcohol application is useful in acute rheumatism only. In the subacute variety its efficiency is very slight, while in chronic rheumatism, it is practically *nil*. In the latter two varieties the best results are obtained from a 33-per-cent. ichthyol ointment or a 20-per-cent. ichthyol-glycerin solution, aided by the persistent and long-continued internal administration of ichthyol and potassium iodide. W. J. Robinson (Merck's Archives, April, 1902).

SCIATICA.

As in many cases of sciatica there are abnormal adhesions existing just above the exit of the nerve from the greater

sciatic foramen or at the foramen, therefore in stubborn cases of sciatica the nerve should be exposed at its exit, and any existing adhesions be broken up with the finger. Roman von Baracz (*Centralblatt für Chirurgie*, March 1, 1902).

SKIN ERUPTIONS IN MALARIA.

From a study of the skin eruptions in malaria, the following conclusions may be drawn:—

1. Skin eruptions are not rare in malarial infection.
2. The most frequent are herpes and urticaria.
3. Neither of these presents any specific characters.
4. Both may occur in any stage of the malarial paroxysm, although urticaria is most frequent in the febrile, and herpes in the sweating, stage.
5. In obscure cases, herpes and urticaria—especially the former—may have considerable diagnostic value.
6. Three types of urticaria are recognizable: That accompanying the paroxysm, usually the febrile stage; that taking the place of the chill; and that substituting the entire paroxysm.
7. In their appearances these three do not differ among themselves nor from urticaria due to other causes.
8. In cases of urticaria of obscure etiology the blood should be examined for plasmodia. Whether found or not, quinine is worthy of a trial. David Riesman (*American Medicine*, March 22, 1902).

TINEA VERSICOLOR.

In the treatment mere cleanliness is not sufficient. Existing scales may be easily detached by the flesh-brush, or even, as some have preferred, by the clothes-brush. With the scales are removed whole colonies of parasites.

Nevertheless many remain behind and furnish the basis for renewed development. The use of water upon the surface is actually deleterious, for the microsporon furfur thrives upon that fluid, which is, in fact, a necessity of its life and growth. If, for purposes of ablution, water be required, it should be mildly impregnated with boric acid, thymol, corrosive sublimate, or some other antiseptic and parasiticide. A watery solution, of one or more of those substances, with the addition of alcohol or glycerin, when needed as a solvent, fulfills at once the requirements of cleanliness and therapy. The addition of alcohol is advisable, again, as it removed sebaceous matter from the affected parts. After such an application has been in operation for a few days and the scales have been removed, one may have recourse to a stronger germicide. The solutions mentioned may be cautiously strengthened, or salicylic acid, resorcin, or chrysarobin may be employed either in solution or made into an ointment. One-half drachm of resorcin to 1 ounce of rose-water ointment is a serviceable remedy in many cases.

A successful result has been reported by a Russian physician from the application of *charta picis*, and the same end has been achieved by the use of tincture of iodine painted upon the patches of disease. In lingering cases, however, the remedy most effectual is copper oleate. One may begin with 10 grains of copper oleate to the ounce of base, and gradually increase the proportion to 1 drachm. In applying this preparation it is by no means necessary to use large quantities. A small amount rubbed upon the surface will soon enter all the recesses of the skin and accomplish its object of eradicating the microsporon furfur and terminating the disease to which the fungus has

given rise. J. V. Shoemaker (Pennsylvania Medical Journal, April, 1902).

TINNITUS AURIUM.

The therapeutic treatment of tinnitus is to-day exceedingly unsatisfactory. Clear indications for the use of a certain class of drugs are lacking. In the order of frequency, the following drugs have been personally prescribed:—

Strychnine sulphate in $\frac{1}{60}$ -grain doses before meals gave the best results, which were not brilliant. In every case the question of sound-wave interference had been previously enumerated. It was used in 17 cases; all but 1 pure on chronic catarrh or mixed disease. Relief, greater or less and in some instances only temporary, was obtained in 7, or 41 per cent.

Iodide of potash was prescribed in 3 cases of chronic diseases of the internal ear, with relief in all, and 2 cases of acute trouble with equal success, while in 8 cases of mixed disease there was relief in only 2, or 25 per cent.

Nitroglycerin was given in several cases with high tension of arterioles. It was often necessary to give large doses, sometimes as high as 20 minims in the day, in order to produce decided physiological results. In at least 2 cases the effect on the tinnitus was flattering, but the large dose could not be continued. With digitalis, on the other hand, tried where there was a clear nervous or arterial tinnitus, the results were uniformly disappointing.

Tincture of gelsemium was employed in a number of cases at times with good results. The results warrant making use of it where strychnine has failed. The drug is a spinal depressant, and has no decided action of the heart. In 10 cases where it was given there was relief of more or less permanence to 5. All of

these improved cases were cases of middle-ear disease. The drug failed totally in cases of internal disease.

Personal experience with aconite, atropine, and arsenic has been very limited and totally negative. Bromide of potash, so generally recommended either as the salt or in the form of hydrobromic acid, has been extensively employed as a *dernier ressort*, but without a single exception has proved a disappointment. T. J. Harris (Laryngoscope, March, 1902).

TONSILLITIS, FOLLICULAR.

A few points regarding follicular tonsillitis may be noted as follows:—

1. That follicular tonsillitis is not caused by a single microbe, but that many well-known micro-organisms are capable of causing it.

2. That the symptoms of tonsillitis are partly caused by an exaggeration of its function.

3. That under the stimulus of infection the lymph-corpuscles in the adenoid structure of the tonsil produce an antitoxin that is antagonistic to invading germs.

4. That the characteristic symptom is an exudate having no texture and non-adherent.

5. That the presence of the Klebs-Loeffler bacillus is not positive evidence that the disease is not a simple follicular tonsillitis.

6. Last, that there seems to be some relation between follicular tonsillitis and the infectious diseases which is not yet properly understood; that whatever the function of the tonsil, it seems in disease to endeavor by its activity to assist Nature in eliminating infection. R. C. Brown (Medical Record, March 1, 1902).

TYPHOID BACILLI IN FÆCES.

During the second week of typhoid fever, when technical aids are of the greatest value to the practitioner, isolation of typhoid bacilli from the fæces gives slightly better results than does the Widal test. These two methods used in combination, when the tests are carefully and persistently made, render material aid in the diagnosis of this disease previous to the appearance of distinctive clinical symptoms.

By the use of the Hiss isolation method, especially with the substitution of the new plating medium, the detection and isolation of typhoid bacilli are, to one familiar with bacteriological methods, simple, reliable, and practical. H. A. Higley (Medical News, March 29, 1902).

TYPHOID FEVER, NITRATE OF SILVER IN.

In the medicinal treatment of typhoid fever the best results have been personally obtained from nitrate of silver according to the method of the late Dr. Pepper, who urged the use of this salt, which is absorbed into the system from the stomach in a modified form, and when put into pill form exerts an influence on small intestinal mucous membrane by steady and slow distribution of particles, and especially is its action manifested in correcting the ulcerative process which often exerts its influence on Peyer's patches and thereabout.

The nitrate of silver is given in pill form, with a suitable combination to form a pill mass, in $\frac{1}{4}$ -grain doses three times a day for an adult. If this is disagreeable to the stomach or causes mild griping pains or slow action of bowels, becoming too free after a few days' use, a small dose of morphine or

opium may be given occasionally to check this tendency.

The silver nitrate may be given in solution of distilled water: $\frac{1}{16}$ grain at a dose every two or three hours if the stomach is irritable. This method in typhoid fever reduces the severity of the symptoms by at least one-half and the duration is often shortened one-fourth.

In the first day or two of fever, when symptoms are severe, with high temperature, it is well to keep the fever down by cold sponging or even by the use of coal-tar antipyretics, such as phenacetin in 5- to 8-grain doses at such intervals as are necessary to accomplish the object and result. W. H. McLean (St. Louis Clinique, March, 1902).

URINARY INFECTIONS, UROTROPIN IN.

In bacilluria urotropin has a speedy and permanent curative action, because here the micro-organisms are swimming freely in the urine, which is acid when excreted, and remains so throughout the duration of the disease.

In pyelitis and pyelonephritis, although urotropin generally relieves the symptoms, in none of personal cases, tubercular or non-tubercular, did a cure result. The chief reason for this is that in these cases the invading organisms are deeply imbedded in the tissues, and so cannot be reached by the drug. Another possible reason may be that in acute pyelitis and pyelonephritis the urine is sometimes alkaline, and the complex antiseptic body is consequently not present.

The best results with urotropin are seen in cases of cystitis secondary to enlargement of the prostate.

Cases of cystitis secondary to gonorrhœa do not do well on urotropin. The symptoms are relieved, and the patient

continues to take the drug because of the relief; but in two personal cases, in which the urine was originally alkaline, it was possible to detect organism in the acid urine after the drug had been taken more or less steadily for in one case five, and the other six, months. Cessation from urotropin in such cases generally means a return of the symptoms.

Cystitis due to bacillus coli, accompanied with acid urine, such as is seen so frequently in women, does not yield readily to urotropin, probably because this organism is peculiarly resistant to the drug.

Urotropin should be given in doses of 10 grains four times daily, the last dose on going to bed at night. J. Odery Symes (Bristol Medico-Chirurgical Journal, March, 1902).

X-RAYS IN MEDICINE.

With regard to the therapeutic effects of x-rays the question of the method of producing the rays is of the first importance. X-rays obtained through either a static machine or a Ruhmkorff coil are of about equal therapeutic value in their effect if other conditions are properly arranged. Much more important than the source of the electrical energy is the matter of choice of the tube to be employed. In low-resistance tubes many of the rays are absorbed, but they are not in the high-resistance tubes. These latter should be used for tumors situated deeply in the tissues and the former for superficial growths.

A perforated diaphragm of lead should be so used that the rays produce their effect upon the tissues only a little beyond the diseased area. Pure tin is more agreeable and easier to handle than lead, and is often employed for this purpose. As the *séance* must continue at times for as long as twenty minutes, the first care

should be that the patient shall be in a comfortable position. It is important to inclose the tube within a box in order to protect the operator, who may be in close proximity, as well as other parts of the patient himself, from the effects of the rays. If the inside of the box be well coated with white lead it will very well serve its purpose of preventing the action of the rays.

At first the exposure of the part to the ray should not extend beyond 5, or at most 10, minutes; so as to enable the operator to recognize how much effect is being produced and to forestall any possible idiosyncrasy as regards oversensitiveness of the patient to the rays. The exposure should be made two or three times a week. In tumors that are of slow growth very little result will be noticed from such short exposures, and they will have to be submitted to the rays for 20 minutes or even longer; in rapidly-growing tumors an exposure of 5 minutes may prove too long.

The operator must be careful that the x-rays do not act as a stimulant as the knife does in some cases of rapidly-growing tumors, causing an efflorescence of malignant energy. The first sensation from the application of the rays is usually a sense of itching, pricking, or a drawing feeling in the skin. This may usually be considered a favorable sign. In epithelial growths the effect of the rays is to cause a breaking-down in the malignant-tissue overgrowth, though healthy tissues in the neighborhood should not be affected.

Rodent ulcers are much slower to react to the action of the x-rays than is almost any other form of malignant growth, though the ultimate results are not unfavorable. As a rule, this form of growth is also more obstinate to treatment. As healing of the edges of the

ulcer occurs, the opening in the tin or lead diaphragm should be made smaller so as to prevent the action of the rays upon the recently-healed tissues. When glands are affected, these should also be exposed to the action of the rays, and, in general, the x-rays should be directed over the parts to which the lymphatic canals of the tissues lead.

In most of the cases of malignant growth personally treated, microscopical examinations confirmed the clinical diagnosis. So far no malignant superficial growth has failed to yield to the x-rays. This same favorable result has been obtained also in a chronic inflammatory lesion, wrongly suspected of being an epithelioma, and even a localized nodule of tuberculosis. Rapidly-growing malignant neoplasms are very quickly affected. Slowly-growing neoplasms take longer to be affected. The site of the growth is the most important consideration for prognosis. Epitheliomata upon the face, upon the hand, upon the breast, and upon the tongue have been cured. Thus far every malignant growth, even though not ultimately cured, has been benefited by the treatment. The earlier the cases come for treatment, the better is the prognosis.

In inoperable advanced cases patients can always be promised great relief from the painful symptoms. F. H. Williams (*Medical News*, March 29, 1902).

General opinion considers the proper radiation for therapeutic purposes to be that from a tube of low resistance, because that is the kind that burns. Personal experiments on guinea-pigs showed that all forms of radiation from vacuum-tubes which could be classed as x-light could burn and produce abortion and death. Therefore, as one can produce injurious effects with any form of x-light, one should learn to use, without in-

jurious effect, the kind best suited for the purpose. The kind must depend upon the seat of the disease to be treated. For superficial diseases the radiation from a tube of low resistance should be used. There are two reasons. This kind of x-light is most absorbed by these tissues; therefore the energy is being used to the best advantage while subjecting the underlying healthy tissues to less stress. Second, with any given generator the amount of electrical energy that can be converted into x-light in a tube of low resistance is far greater than the amount that can be converted into x-light in a tube of high resistance.

If internal diseases are to be treated, the radiation from a tube of high resistance should be used, because, this light being less absorbed by the superficial tissues, they are less affected relatively than with a radiation which they absorb to a greater extent; also, because this radiation is less absorbed by the superficial tissues more is available for affecting the internal organs. William Rollins (*Boston Medical and Surgical Journal*, April 24, 1902).

In a study of the cases of accidental x-ray burns hitherto recorded, the following conclusions have been formed:—

1. The frequency of x-ray injuries has been much exaggerated by the medical press, owing to the wide publicity given to many early cases.

2. The writer has been able to collect somewhat less than two hundred cases, less than half of which were serious, and about one-third of which occurred in x-ray workers.

3. Judging from the experience with these injuries in Boston, it is the writer's opinion that a fair proportion of the severe burns are included in this series, while the dermatitis of sciagraphers is less well represented.

4. At a maximum estimate it is safe to say that not one patient in a thousand has been injured in the past five years by an x-ray examination, and in the past year not one in ten thousand.

5. More than two-thirds of these injuries occurred in the first two years of the use of the x-ray. Only one mild case is reported as occurring in the current year, those cases in which the exposure has been made for therapeutic purposes being excluded.

6. The cause of x-ray injuries is not definitely known. It is some form of energy closely allied to the photographically active x-ray and radiates with it from the platinum terminal.

7. The primary injury is to the nerves controlling the nutrition of the skin.

8. There is no good evidence of injury to the deeper tissues without primary interference with skin.

9. The important factors which contribute to the production of x-ray burns are: the intensity of the current used to stimulate the tube; the quality of the tube; the distance and time of exposure; the idiosyncrasy of the patient.

10. The static machine is somewhat less likely to produce injury than other forms of apparatus.

11. From the data of the reported cases we can say that no burn has been produced by an exposure equal to or less than the equivalent of 5 minutes at 10 inches.

12. It is impossible from the data to say how intense an exposure must be to produce a burn, for a comparison of the cases shows that an inconstant factor or factors exist.

13. These inconstant factors are more likely to lie in the complex human organism than in the less complicated construction of the tube.

14. General experience has shown that

soft tubes produce a more intense effect on the tissues than hard.

15. While we cannot control these inconstant factors, therapeutic exposures will continue to be dangerous, and it is therefore important to record the exact conditions of the patient's local and constitutional idiosyncrasies, as well as those of the tube.

16. In cases of injury the time before the appearance of the first symptoms has varied from a few minutes to three weeks. Five cases have remained latent for over three weeks; two of these for five months.

17. It is impossible to predict the severity of the lesion from the time of its appearance after exposure.

18. The writer suggests 10 minutes at 6 inches from the platinum terminal as a standard therapeutic exposure. This will make comparisons between the inconstant factors easier.

19. Unless signs of dermatitis appear within three weeks after the exposure, they are unlikely to appear at all. In one-third of the reported cases the appearance occurred within the first four days; in one-half the cases before the ninth day.

20. In the ordinary x-ray examination with fluoroscope or sciagraph, the operator takes the entire responsibility of injury; in exposure for therapeutic purposes the patient shares the responsibility. E. A. Codman (Philadelphia Medical Journal, March 15, 1902).

The outlines of the heart stand out prominently on the fluorescent screen. This is especially true of the left ventricle. The pulsations can be counted even by the most inexperienced. There are no other means of acquiring so accurate information of the size and location of the heart as that given by the ray. Every physician has experienced, for ex-

ample, the difficulty between dilatation of the heart and pericarditis with effusion. A diagnosis without the ray is notoriously uncertain; with it the task is comparatively easy. In pericardial effusion the regular wavy outline of the left ventricle, with each systole, is no longer evident, its place having been usurped by a bulging mass, the appearance of which is at once diagnostic. Among other displacements, readily recognized, those the result of pleuritic adhesions, pneumothorax, pulmonary fibrosis, etc., may be mentioned. The degree of displacement of the heart, following pleuritic effusion, cannot be accurately determined by percussion, since the heart may be pushed into the body of an emphysematous lung and the dull area therefore much lessened. James Third (*Canada Lancet*, April, 1902).

In two cases of aneurism and one of malignant disease occurring within the chest, the x-rays were a help more or less in removing doubts and in explaining anomalous symptoms, while in one it was the only means of detecting an aneurism of the thoracic aorta. In this latter case there was a complete absence of all objective phenomena, and the only subjective symptom on which to lay stress was the existence of an ill-defined pain in the left thorax in front, referable to the third rib in the mammary line, and occasionally shooting out to the shoulder.

Though the presence of pain as the essential symptom of aneurism should never be overlooked nor made little of, it must be readily admitted that this symptom is not, in and by itself, sufficiently characteristic to justify a diagnosis of aneurism. Some patients may, with a moral obliquity and for a certain unworthy purpose, make great stock out of these pains; but, on the other hand, when there is no desire or intention to

deceive, cases have occurred which have been made little of by the patient and the doctor alike and yet have ended fatally by the sudden bursting of an intrathoracic aneurism. In such cases the aid of the x-rays is incalculable, as it converts the possibility of an intrathoracic tumor being the cause of the pain into a certainty. J. M. Finny and E. J. M. Watson (*British Medical Journal*, March 15, 1902).

In young people and women, where there is little or no muscular development, the task of taking a satisfactory sciagram of the region of the kidney is a fairly easy one; but when it comes to having to deal with men with well-developed abdominal muscles, and a large deposit of fat as well, it is a very different matter, and even with much more prolonged exposure to the rays one cannot always get a good result. Mr. J. Hutchinson, Jr., draws attention to the fact that in very fat persons the use of the x-rays is valueless in the detection of renal calculi. Moreover, the calculi themselves are a source of difficulty, for some are more pervious to the rays than others. It is always wise to take more than one sciagram, with different lengths of exposure, in a suspected case of calculous disease.

The use of the x-rays in five personal cases confirmed the diagnosis of renal calculus arrived at by ordinary clinical methods in two of the cases; demonstrated the presence of a stone in a possibly tuberculous kidney in one; showed the disease to be renal, and which kidney was affected in a fourth; and, in another, they not only showed the stones to be multiple, but proved of invaluable assistance to the surgeon in operating. James Taylor (*Bristol Medico-Chirurgical Journal*, March, 1902).

Satisfactory results recorded in the

detection of renal and ureteral calculi in experience of thirty-seven cases. Albers Schönberg (*Fortschr. a. d. Geb. der R. Strahlen*, bd. iv, S. 118, 1901), C. and A. Llaberia (*ibid.*, bd. v, S. 116, 1902).

The accuracy of negative diagnosis renders it unnecessary to incise the kidneys or ureter in the search for calculi. It renders safe and rational the treatment of renal disease by purely medical measures, when the symptomatology does not point to some cause other than calculus that demands operative intervention. An operation with its attendant risks, that would otherwise have been essential to the safety of the patient and the integrity of the kidney, is often obviated. It eliminates calculus anuria from consideration, and any operation upon one kidney is free from the danger that the other is the seat of calculous disease. In cases demanding a nephrorrhaphy there is no longer need to search for calculi.

These effects upon diagnosis and treatment, as the result of the employment of the Roentgen method of diagnosis, have been observed in the study of the 206 cases suspected of renal calculus that have been referred to the author for examination. Calculi have been found in 65 cases, and in over 60 per cent. they were in the ureter. In only 3 cases in which a negative diagnosis has been rendered has it been found incorrect. In 1 case the error was due to faulty technique. In the other 2 cases calculi, weighing less than one grain each, were overlooked and subsequently passed. Other calculi as small have frequently been detected.

The chance of error in the negative diagnosis is very slight, and the calculi that may be overlooked are so small that their final expulsion is certain. There are as yet patients in whom it is im-

possible to make an absolute negative diagnosis on account of their size. In suitable cases hydronephrotic and displaced kidneys have been demonstrated, while calculi have been detected in patients weighing over two hundred pounds. In such cases when great detail is demanded in the sciagraph or the difficulties to be overcome are out of the ordinary, it is sometimes necessary to make repeated exposures before a satisfactory result is obtained. When, however, a result is obtained, it enables the diagnostician to demonstrate the accuracy of his results to those capable of appreciation. C. L. Leonard (*Medical News*, Feb. 15, 1902).

From a number of experiments, the following conclusions may be drawn:—

1. That fibrosarcomata, and probably other tumors, can be photographed in the living subject and their location and extent shown.

2. That various tumors can be photographed in their most common locations.

3. That other abnormalities and deficiencies in brain-tissue itself can be photographed, which will probably be of value in the diagnosis of cysts, softening, and hæmorrhages.

4. That overexposures of the third series and the underexposure of the fourth show that good results will only follow the most careful technique and keen judgment as to the special conditions in each case.

5. That the shadows obtained in normal parts of the brains studied indicate that great care is necessary in the interpretation of any shadow obtained in the living subject. G. E. Pfahler (*Philadelphia Medical Journal*, Feb. 8, 1902).

The effects of the x-rays on the tissues of the skin are believed to be, broadly speaking, of two orders: (1) those of a

kind analogous to burning; (2) specific effects. Roentgen rays appear to exert a specific action on degenerative epithelium. The growth of hair, nails, and the horny cuticle is rapidly affected, and all these are forms of physiological degenerative epithelium. Rodent ulcer is a purely epithelial disease, and there can be no question that the rays cause a dissolution of the new epithelial cells. The same is true of epithelioma, and possibly, to some extent, of other forms of cancer. The remedial influence of these rays on lupus is to be attributed to their burning action, and not to any specific influence. No good effect results unless the exposure to the rays is followed by at least some symptoms of burning. Leslie Roberts (*British Medical Journal*, Feb. 8, 1902).

From observations up to date, rodent ulcer appears to be completely controlled by x-ray treatment. Quite a number of cases have been reported by many observers in different parts of this country, as well as abroad, of the successful treatment of rodent ulcer by x-rays; and, from its close relations with epithelioma, one may be allowed to hope that simple epitheliomata, such as of the lip, will also by and by be successfully treated by x-rays. H. Lewis Jones (*Clinical Journal*, April 2, 1902).

The action of the x-rays on rodent ulcer thought not to be due to their escharotic power, but to some influence which, as it were, turned the scale of growth in favor of the healthy tissues, thereby enabling them to destroy and absorb the malignant cells. Arthur Walker (*British Medical Journal*, Feb. 8, 1902).

Four cases of rodent ulcer successfully treated with x-rays. The treatment is so successful that if applied at an early stage the ravages of this disease ought to

be almost completely prevented. The danger of dermatitis is almost absent if the treatment is carried out under proper supervision, including an efficient arrangement of masks. The exaggerated fears of dermatitis which prevail have led to this efficacious form of treatment not being utilized to anything like the extent which it deserves. A sitting beyond fifteen minutes for cases of rodent ulcer is not advised. The x-rays have a marked destructive effect upon lowly-organized and rapidly-growing cells.

In the four cases of rodent ulcer the full power of the coil has never been used, only sufficient to produce fair penetration as shown by the screen and as the tube became weaker the sparkage was increased. J. W. Pugh (*British Medical Journal*, April 12, 1902).

Two cases of lupus vulgaris successfully treated with urea pura and the x-rays. The general outline of the treatment employed was as follows: On May 21, 1901, in the one patient, and on June 7, 1901, in the other, urea was ordered in 20-grain doses three times a day, and the exposures were commenced on these dates, respectively. The x-ray apparatus used was a 10-inch coil, with a platinum interrupter, and a Crookes focusing tube with a spark-length of six inches. The exposures were made daily, and were of seven minutes' duration, at a distance of from two to three inches from the face. The voltmeter registered twelve volts and the indicator of the galvanometer oscillated between four and six ampères. It was never found necessary to protect the healthy skin from the rays, as the only effect produced was a slight, red areola around each scab.

The points to which it is wished to draw particular attention are: The low-pressure tube used (viz., six inches) and

consequently the absence of any severe dermatitis in the neighboring healthy skin; secondly, the comparatively short duration of the treatment and the small amount of trouble entailed in carrying it out; in the first case the exposures were stopped on September 30, 1901, and in the second on September 3, 1901; thirdly, the great improvement in the general health; and, last, the absence of all puckering of the skin and unsightly contractions, so commonly seen in cases treated by the older method of scarification. Edward Swales (*Lancet*, March 8, 1902).

In malignant growths the x-rays produce almost immediate and complete relief from pain. In this matter they are much better than any of the ordinary analgesics; one patient, who had had considerable experience with both, said that the relief they afforded was as great as that produced by morphine and was much more lasting. This points to the fact that the nerves of sensation of the part are entirely benumbed. The lowering of the nerve-function of sensory nerves probably indicates also that all nervous supply to the part may be similarly affected. The nerves along which trophic impulses travel to the new growth are rendered incapable of function; hence the retrogression of the new growth itself. Through the nerves a true paresis of all the protoplasm of the part is affected. The action of the x-rays on micro-organisms would also affect the micro-organism of cancer if it were present. The most important feature of the new growths that are amenable to treatment by the x-rays is superficiality. If the growth is situated in the skin itself or if it is not covered by skin because of ulcerative processes, then the x-rays are sure to be useful. Epithelioma of the skin can be cured; also broken-down

carcinomata of deeper tissues with the portions of the new growth exposed, because of cutaneous sloughing, can be favorably influenced. Superficial sarcomata are also amenable to treatment in this way.

Both forms of radiation, that derived from Ruhmkorff coil or from a static machine, may be used for the production of the x-rays for the cure of cancer. The tube employed for the x-rays should be Crookes's tube as modified by Jackson. When it is necessary to protect a portion of the exposed surface of the patient from effect of the rays, a screen of block silver or block tin, which is not grounded, is used, and the patient is not insulated.

The tubes with a high vacuum equal to about a seven-inch air-gap are preferred. Tubes thus made need not be too strongly actuated. Jackson's modification of Crookes's tubes does not deteriorate very rapidly, and will produce its effect for a long time. The x-rays should be employed in such a way as to produce a decided effect upon the tissues and yet not cause gangrene. If the x-rays are used in very strong concentration there is great danger of seriously injuring cutaneous tissues. As the incubation period for gangrene of the skin, after x-ray exposure, is from nine to twenty-one days, there is great uncertainty as to the results. The operator may be accumulating a series of gangrenous processes that will make themselves felt successively some time after the treatments. William J. Morton (*Medical News*, April 5, 1902).

As a result of treatment in four personal cases, the following conclusions have been reached: (1) that the rays are especially indicated in all inoperable cases of cancer of the skin; (2) that the best results are obtained when the dis-

ease is confined entirely to the soft parts; (3) that, owing to the complete relief of pain and superior cosmetic result obtained, patients too readily assume that they are well and neglect to attend, and hence recurrence may occur from failure to complete treatment; and (4) that the use of x-rays is no obstacle, but a valuable aid, to other methods. Stopford Taylor (*British Medical Journal*, Feb. 8, 1902).

Some encouraging results personally obtained with the x-rays, especially in the recurrence of cancer after operation upon the female breast. This favorable experience also extends to a case of recurrence of carcinoma of the jaw with ulceration into the mouth. The tubes of large-potential electrical energies should be employed and they should be artificially cooled by means of a water-reservoir. As a rule, relief from pain is a very marked feature. The night after an exposure to the x-rays, patients, who had previously been very uncomfortable, rest very quietly. Undoubtedly, with larger apparatus, the x-ray operator will be able to treat carcinomata in deeper tissues than at present. A. B. Johnson (*Medical News*, March 29, 1902).

Personal success with the coil has been far from being satisfactory, and it has been discarded entirely for the static machine.

The use of this therapeutic agent in the treatment of inoperable cancer is wonderful. With proper care and judgment there is a safe and certain cure for a very large class of malignant diseases, that heretofore have been considered incurable.

In the hæmorrhagic forms of carcinoma of the uterine neck and vaginal walls success has been gratifying. But in these cases Finsen light is used as well as the Roentgen ray. The actinic rays

of light derived from the Finsen tube will control the hæmorrhagic condition much more promptly than anything before used.

In one personal case that came on a stretcher, nine weeks ago, the least movement caused profuse bleeding from the cervix. This patient was subjected to the Finsen ray for one hour and the Roentgen ray for ten minutes daily. For the past four weeks there has been no hæmorrhage, and she has walked in the street and rides from two to three hours daily.

The tubes that are apparently in every way alike will have totally different therapeutic effect.

Some patients will tolerate a fifteen-minute exposure at twenty-five inches distance; but five minutes at fifteen inches distance will cause a redness of the skin in another.

The use of the ray in visceral cancer is growing in favor daily.

Personal preference in such cases is for a hard tube, as that has to its credit more injuries to the deep tissues, and therefore penetrates more deeply.

When it is desired to treat malignant disease of the internal parts, one should select a hard tube for the purpose and bring it as close to the surface of the body as possible consistent with safety.

It is dangerous to use an aluminum screen, as it leads to a sense of false security and therefore a recklessness in the use of this powerful therapeutic emanation.

The use of the Roentgen ray is now a well-established method of cure for carcinoma of the female breast.

One of the most satisfactory fields for work in this line is in recurrent carcinoma after amputation of the breast. Where ulceration has not occurred in these breast cases, nearly every case will

yield to treatment without the destruction of the superimposed skin. Where the skin has been destroyed over the region of disease, the ulceration will heal very promptly. It has even done so in women advanced in pregnancy.

Carcinoma of the stomach has been brought within the curative influence of Roentgen fluorescence. But these are the cases that require the greatest amount of care and judgment on the part of the operator. The happy medium is so very difficult to determine that it is better to err on the side of short exposures, as too long *séances* may do serious damage to the patient.

The various forms of malignant disease that affect the face are amenable to this form of treatment. It is remarkable with what rapidity the odor disappears while under daily exposures to the x-ray.

Large surfaces in cases involving the greater portion of the cheek of one side heal very satisfactorily, but not as rapidly as in some other portions of the body.

In cancer involving the tongue where speech has been lost and swallowing is so difficult that the patient is nourished by rectal enemata, the x-ray has worked marvelously.

One case in which amputation of the tongue was decided upon as the growth was closing both trachea and œsophagus has yielded to the combined use of the x-ray and Finsen light. This patient was receiving all his nourishment per rectum, yet in three weeks' time, with five treatments a week, was able to eat solids, and had regained phonation, which had been lost. G. G. Hopkins (Philadelphia Medical Journal, April 5, 1902).

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Sixteenth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania, volumes i and ii.—Transactions of the American Climatological Association for the Year 1901, volume xvii.—Treatment of Suppuration in the Uterine Appendages. By Charles P. Noble, Philadelphia. 1902.—The Management and Treatment of Arteriosclerosis. By Egbert le Fevre.—Report of Two Cases—Removal of a Sole-Leather Bougie from the Male Urethra and a Mulberry Calculus from the Bladder. By John A. Sutcliffe, Indianapolis, Ind. 1902.—Corpulence and the Fatty Heart. By Thomas E. Satterthwaite, New York City. 1899.—Fifth Report of the Committee of Inspection Appointed by the Executive Committee of the Post-graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-graduate Hospital, New York, March, 1902.—Four Cases of Tumors. By James E. Newcomb, New York City. 1901.—The Value of Abdominal Palpation in the Diagnosis of Diseases of the Stomach and Intestines. By Charles D. Aaron, Detroit, Mich. 1902.—Appendicitis. A Symposium by the Cuyahoga County Medical Society of Cleveland, Ohio. 1900.—Some of the Uses of Benzoate of Guaiacol, with Illustrative Cases. By S. E. Earp, Indianapolis, Ind. 1902.—Pernicious Anæmia. By Edwin Leonard, Jr., Boston, Mass. 1902.—Median Nerve Palsy. By Haldor Sneve, St. Paul, Minn. 1902.—Hydroleine in Malnutrition. By E. B. Sangree, Nashville, Tenn.—International Reports of Schools for the Deaf, made to the Volta Bureau, January, 1901.—Celery Culture. By W. R. Beattie, United States Department of Agriculture, Washington, D. C. 1902.

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APPENDICITIS.

We can best diagnose the locality of the disease by the following method: Ask the patient to point the finger quickly to the spot where there is the most pain without looking at the abdomen. Repeat this proceeding a number of times until you are certain that the right point has been obtained. Then the course of the appendix will lie be-

tween the base of the organ and this point. Where no mass can be felt in the region it is impossible correctly to diagnose a perforation or gangrene. Where the mass can be felt and persists longer than two or three days without diminishing in size or indeed even increasing, it always has pus for a nucleus. When the mass is to be felt by rectal examination it means an in-

flamed appendix partially in the pelvis, or a secondary abscess, adhesion in Douglas's pouch, or a gravitation of fluid into the pelvis. One cannot lay down fixed rules for the conditions of the general peritoneal cavity, but the writer is inclined to believe in rigidity as one of the most striking features. The differential diagnosis between appendicitis and other diseases is generally easy. Occasionally gall-bladder disorder, torsion of the omentum, new growths in the intestine, intestinal obstruction, an affection of the female adnexa, or reflected pain from thoracic disease may make it difficult. The frequency of appendicitis must be kept in mind, and also that it occurs most frequently in late spring and summer months. The severest cases occur in the large cities. No fixed rules can be laid down for appendicitis. Sometimes the severity of the disease is not in sufficient proportion to account for the symptoms. Sometimes the local symptoms are slight and the general intoxication severe. We have to depend on the pulse, pain, temperature, and other symptoms as indications of the severity of the disease and of the treatment to be followed. C. A. Elsberg (Medical Record, April 5, 1902).

Because of its anatomical characteristics and relations, the appendix is an organ of lower vitality and less resistance than are other parts of the intestinal tract. Micro-organisms are normally present in the intestine, and await but an opportune moment when, in the presence of irritating secretions, they may excite an inflammatory reaction. While appendiceal inflammation may undoubtedly originate *de loco*, there is no question but that in many cases the appendiceal inflammation is a secondary infection, the primary focus being in the

intestine proper: the result of an acute indigestion or a catarrhal inflammation. While we can rarely make the positive assertion that a disease has, through our efforts, been aborted, it is personally believed that prophylaxis is the price of health, and that it may even be possible to do much toward the prevention of attacks of appendicitis, especially in the case of patients who have previously suffered, by careful attention to the regulation of diet and intestinal habit in health, no less than in securing good intestinal drainage and antisepsis in the various gastro-intestinal illnesses. A. J. Patek (American Medicine, April 5, 1902).

The leucocyte-count is a valuable aid to prognosis in appendicitis. This is distinct from its diagnostic value. A high stationary or an increasing count indicates a morbid condition of increasing severity which demands operation, no matter what the clinical symptoms may be. A low stationary or decreasing count indicates that the severity of the case is abating and that operation may be safely postponed. Cases in which a falling count is accompanied by unmistakable signs of a generally bad condition form the rare exception to this second principle, and in them there is no chance of error. No arbitrary set of prognostic values to be assigned to various degrees of leucocytosis can be constructed. The important point is to follow any scheme in which one learns to have confidence, provided the essential principle be preserved. The count indicates when operation should be performed for the best interests of the patient. Circumstances often render it desirable to postpone operation in appendicitis. Study of the blood-count enables it to be determined whether this may be done with safety, and often

renders such postponement permissible. H. M. Joy and F. T. Wright (Medical News, April 5, 1902).

The differential diagnosis between appendicitis and mucous colitis may be at times very difficult. At least one case was personally seen in which it was impossible. The diseases were probably combined, and the attack originated in the colon, then extended to the appendix, and finally fixed itself again more especially in the colon.

In colitis the pain may become localized over the appendiceal region; the resistance of the abdominal walls may be more pronounced over this region; with nausea or vomiting, high temperature, quickened pulse and respiration, we have pretty much the same symptoms as in appendicitis. In colitis the bowels may be loose in the beginning, but without showing mucus, blood, or any undigested food. Later, and with freer and more abundant evacuations, a considerable amount of bile-colored mucus is apt to show itself in the stools, and thus, with, perhaps, a somewhat lowered temperature, a diminution in the localized pain and a more relaxed, less distended abdomen, we are led to make the diagnosis of confirmed colitis with little or no cause for reasonable doubt. In either case much the same treatment is indicated, short of operative interference.

The great difficulty arises where we ask ourselves: should a laxative or purgative dose be employed? If, unfortunately, the appendix be ulcerated, on the point of perforation, or already perforated, a laxative may do great and immediate harm, perhaps directly occasion perforation, peritonitis, and collapse. On the other hand, if we give laxative remedies, we may be able rapidly to change and ameliorate most

threatening symptoms and avoid the necessity of operation. "It is for the careful, wise, and conscientious practitioner to decide, and his mind is sometimes almost equally balanced on one side or the other."

If careful consideration of the *début* and course of the case points somewhat toward colitis, small doses of calomel and soda at half-hour intervals, followed later by castor-oil, are indicated. In one case this treatment settled the diagnosis and the recovery beyond peradventure, and by medicinal agents alone. Beverley Robinson (Medical Record, April 19, 1902).

A number of cases of chronic colitis seen in which the question was raised as to whether the condition was not really a chronic appendicitis, but no case of acute appendicitis of so grave a nature had been seen as to make it unsafe to give a laxative or injection for fear of producing perforation where the question was raised as to whether the condition was really an acute appendicitis or acute colitis. When perforation is threatened in acute appendicitis, the diagnosis is usually not difficult to make. One or two cases of unmistakable chronic colitis personally seen which were entirely cured by removal of a diseased appendix. This would seem to indicate that the inflammation in these cases had begun in the appendix and extended to the colon, the primary and chief lesion, however, being in the appendix. McBurney (Medical Record, April 19, 1902).

BLOOD-PRESSURE, INFLUENCE OF BATHS AND DOUCHES ON.

The influence of all quiescent baths on the blood-pressure is attributable to thermic irritation. There occurs in all

water-baths having a mean temperature of the body-surface a typical curve of increased blood-pressure, with a lessening of the pulse-frequency, which continues throughout the entire bath. Water-baths with a mean temperature above that of the body-surface up to 40° C. leads to an initial brief increase and then to a lowering of the blood-pressure below the normal, which is followed by a renewed increase in pressure. There is a decrease in the frequency of the pulse in this group of baths up to a temperature of 38° C. From that point upward an increase occurs. In water-baths having a temperature above 40° C. there occurs a permanent increase of blood-pressure of typical form, as also in cold baths; only with this difference, that the pulse-frequency is not diminished, but rather strongly increased. In agitated baths, also in half-baths and wave-baths, mechanical irritation becomes more evident according to the intensity of the movement, reaching its highest effect with douches. These produce increase of blood-pressure when of sufficient intensity, regardless of temperature. This increase is marked, but of brief duration, as in most baths. Otfried Müller (*American Medicine*, May 31, 1902).

BRIGHT'S DISEASE, SURGICAL TREATMENT OF.

Nephropexy is always a beneficial procedure in a movable kidney in a patient suffering from chronic nephritis. Nephrotomy has proved a valuable operation in unilateral chronic nephritis associated with hæmaturia and nephralgia. The value of a complete decapsulation of the kidney as a therapeutic measure in chronic Bright's disease has not as yet been determined, as the pro-

cedure has not been employed extensively enough to warrant positive conclusions. With the exception of Edebohls's two cases, reported in December, 1901, and the case reported herein by the author, no reported instances of decapsulation pure and simple for chronic Bright's disease have as yet come to personal attention at the time of writing this article, although perhaps the operation has been performed in a number of other cases of chronic nephritis. Ramón Guitéras (*New York Medical Journal*, May 17, 1902).

CHOLECYSTECTOMY.

This operation is indicated when there is either gangrene of the gall-bladder and suppurative inflammations endangering its vitality; neoplasms of the gall-bladder; injuries of the gall-bladder; permanent obstructions of the cystic duct. The conditions in which it is not so imperatively indicated are: (a) contracted gall-bladder which cannot be attached to the parietal peritoneum for drainage; (b) calculi impacted in the cystic duct which cannot be removed except by incising the duct. Cholecystectomy should not be performed in cases in which drainage is indicated, namely: (1) when there is uncertainty as to the potency of the common duct; (2) suppurative cholecystitis without sloughing; (3) cholangitis; (4) when the duct is sutured after choledochotomy and the gall-bladder can be easily and safely drained; (5) it should not be attempted in cases in which prolongation of the operation would lessen the patient's chances, as when jaundice or bleeding are present, or there is impairment of vitality by disease or age. J. A. Blake (*Medical News*, May 10, 1902).

COUGH, MENTHOL IN THE TREATMENT OF.

Menthol is a valuable remedy in the symptomatic treatment of cough. It is a non-toxic anæsthetic and calms the irritation of the air-passages as well as does morphine. A few crystals of menthol are placed on a spoon and heated over a lamp or stove for from five to twenty seconds. In this way a sufficient amount of menthol-vapor is produced for the patient to inhale. A solution of menthol in alcohol, in the strength of from 40 to 50 per cent., may also be used, from 10 to 20 drops being placed in the hollow of the hand and thus inhaled. In order to remove the mucus which lines the bronchi and sometimes interferes with the action of menthol, injections of mentholated oil may be given, thus evoking a cough which serves to remove the mucus. Sängner (*Therapeutische Monatshefte*, July, 1901).

CRETINISM.

Unfavorable results of the treatment of infantile cretinism with preparation of thyroid gland. There was no longitudinal growth of the bones nor any poisoning to be observed, but great bodily prostration and an augmentation of spiritual apathy, together with emaciation dependent upon a loss of fat. From these unfavorable results of therapy it is seen that the view is untenable, that athyrcosis is the cause of cretinism. These observations are the reverse of the favorable ones made on the treatment of myxœdema by thyroid gland, both in the young and in adults. Blum lays stress on the correspondence of these observations in the experiments on man and animals as showing also that athyrcosis is not influenced by thyroid gland. In myxœdema it is appar-

ently active only in that there is a diminishing of the disease deposits. Naunyn pointed out that the failures in thyroid therapy have to do with endemic cretinism, while, on the contrary, favorable results occur in the sporadic form. A 3-year-old girl has, under his observation, developed from a cretin into a well-developed full-grown child. It required about ten years of uninterrupted use of thyroid gland, and whenever the treatment was stopped retrograde symptoms immediately appeared. Kraus has also had favorable results in the treatment of myxœdema, but very bad results in cretinism. Scholz (*American Medicine*, May 31, 1902).

DIABETES MELLITUS.

The experiments of Lépine, Arthus, Krause, and others seem to show that the blood and lymph incorporate an agent that can destroy sugar. Personal experiments were undertaken to confirm these and to determine the source and character of the sugar-destroying substance ferment. It was found that this agent is contained in corpuscles, and not in serum, and in the white rather than in the red cells; whether in leucocytes or plaques is not determined, and the degeneration of the white cells must occur before the ferment can develop its powers.

The question as to the influence of the pancreas was also investigated, and it seems probable that it is in some way connected with the manufacture of glycolytic ferment, and that trypsin has formed this glycolytic ferment is shown by the impairment of the blood. Both the solution of trypsin and the solution of glycolytic ferment can digest fibrin in alkaline solution; they can coagulate certain coagulable solutions; give cer-

tain proteid reactions; they are precipitable by dilute acetic acids; they are soluble in water after contact with alcohol; they can form bile-pigment and acids from hæmoglobin in the presence of small quantities of dextrose; they lose their power if dextrose is not present, and they possess glycolytic powers in the presence of hæmoglobin, lose it in its absence, and are rendered inactive by contact with urine, so that neither is normally excreted in the active form by way of the kidneys. In fact, they are so similar, even identical, that they cannot be distinguished by any known method. Until proof to the contrary is forthcoming, we are justified in considering the glycolytic ferment of the blood and tissues to be none other than trypsin.

The question of what causes pervert-glycolysis and reduces the sugar-destroying powers of the body is not easy to answer, but the writer concluded that pancreatic fluids play an important part in the function. While we cannot assume pancreatic disease in all cases of diabetes, it is possible that functional diseases of the organ may exist during life that leave no anatomical trace and that may have this effect. The recent discovery by Opie in regard to the frequent occurrence of degenerative changes in the islands of Langerhans gives a certain experimental basis to such an hypothesis.

Some therapeutic suggestions are offered as regards the treatment of diabetes and indications as to the increased glycolysis by supplying glycolytic ferment, and the following measures promise some success: 1. The infusion of chyle or of blood from a healthy animal. 2. The injection of leucocyte-extracts. 3. The injection of trypsin. 4. The injections of vegetable glycolytic ferments. The experiments were made on

animals that had been rendered diabetic by the extirpation of the pancreas; the reduction of sugar in the urine was observed to ensue in some of the cases from the injection of lymph, though there was a later increase. The leucocytes of the lymph seemed to be active in affecting the glycolytic action for a certain period, and, after awhile, the glycolytic ferment contained in the cells of chyle injected had disappeared and an increase of sugar followed. The effects of the blood-injections were less marked; the injection of vegetable ferment with glycolytic powers has not yet been attempted, and the results of experiments with trypsin will be published later. The extreme toxicity of trypsin proves its greater power of altering the course of normal processes, and, when carefully tested and its safe dosage determined, it may be found of value in the treatment of diabetes. A. C. Croftan (*Amer. Jour. Med. Sci.*, April, 1902; *Jour. Amer. Med. Assoc.*, April 19, 1902).

DIABETES, SUPRARENAL.

As already pointed out by the writer, the suprarenal gland contains a substance which gives rise to glycosuria if brought into the circulation in minute doses. This substance is identical with that constituent of the suprarenal which turns solutions of iron green and reduces ammoniacal solution of silver, and which also serves to increase blood-pressure. Suprarenin and adrenalin possess this sugar-producing power. A fraction of a milligramme of this substance, or the contents of a single suprarenal gland, serves to give rise in a rabbit to nearly 6 per cent. of dextrose in the urine. In dogs fed exclusively on meat 4 per cent. of grape-sugar was found in the urine. The glycosuria per-

sisted for two and three days. By continued injections of suprarenal juice true diabetes may be produced. The starting-point of the sugar-producing agent of the suprarenals the writer believes to be in the liver. Hungry dogs, whose glycosuric power may be regarded as exhausted, excrete scarcely any dextrose after injections, but if fed on fat they begin again to give off dextrose in large quantity. There is a great probability that the suprarenals have etiological relation to many forms of human diabetes; especially Addison's disease may be due to loss of activity in the suprarenals. F. Blum (*American Medicine*, May 31, 1902).

DIGITALIS, CUMULATIVE ACTION OF.

Investigations carried on in the Pharmacological Institute in Heidelberg, and based on experiments on cats with different pure preparations of digitalis, the influence of each drug being continued for a period of several weeks. All digitalis preparations were used in gradually increased doses. At first a simple therapeutic action occurred, which finally became cumulative. Digitoxin exhibited the strongest cumulative action, and is, therefore, not to be recommended for continued daily use. Digitalicum, on the other hand, is rapidly excreted and may be used in certain cases for considerable periods. Strophanthin is usually more evanescent in its action than digitalis, but a preparation of strophanthin recently prepared by Professor Thoms (Berlin) is particularly active and lasting. In none of the preparations was there observed any tendency to become habituated to the drug. Fränkel (*American Medicine*, May 31, 1902).

DIPHTHERIA, TREATMENT OF, WITH ANTITOXIN.

The time is long past when there could be any difference of opinion as to the utility of the antitoxin in the treatment and in the prevention of diphtheria, and, at the present day, after abundant time has elapsed for the enthusiasm aroused by an important innovation to subside, it may be accepted as the deliberate judgment of the medical profession that the discovery of the antitoxin of diphtheria must rank with that of anæsthesia and that of vaccination as among the most beneficent in the history of medicine. Statistical evidence to this effect has been forthcoming in overwhelmingly convincing amount, and it would appear almost superfluous to add thereto. Nevertheless, the results of a study of the cases of diphtheria treated in the municipal hospital of Mühlhausen, a small manufacturing city of Germany, both before and since the introduction of the antitoxin, are not without interest. Thus, the percentage of mortality from diphtheria was, in 1892, 53.4; in 1893, 55.3; in 1894, 51.7; in 1895, 38.5; in 1896, 28.8; in 1897, 16; in 1898, 20; in 1899, 15.1; in 1900, 13.7. Among the cases of pharyngeal diphtheria the mortality percentage was, in 1892, 20; in 1893, 35; in 1894, 37.1; in 1895, 19.4; in 1896, 26.2; in 1897, 8.6; in 1898, 14.8; in 1899, 7.1; in 1900, 8.1. Of the cases of laryngeal diphtheria, the percentage was, among those not operated on: in 1892, 33.3; in 1893, 81.8; in 1894, 58.3; in 1895, 100; in 1896, 0; in 1897, 10; in 1898, 12.5; in 1899, 7.1; in 1900, 8.3; while among those operated on the percentage was, in 1892, 67.5; in 1893, 67.7; in 1894, 70.9; in 1895, 70.7; in 1896, 33.3; in 1897, 29.4; in 1898, 35.3; in 1899, 34.4; in 1900,

37. At the same time a large reduction in the number of cases of laryngeal diphtheria requiring operation was noted after the institution of antitoxin treatment. That the favorable results, which correspond closely with those observed elsewhere, are not due to the character of the disease is shown by the fact that the cases during the years 1899 and 1900 were more severe than at any time in the last twenty years.

The plan of treatment pursued consists in the administration immediately of an injection of antitoxin to every child admitted to the hospital, the amount varying with the duration and the severity of the symptoms. Thus, in cases of pharyngeal diphtheria from 600 to 1500 immunity units are given, in accordance with the extent of the deposit, the degree of temperature elevation, and the duration of the disease, the same dose or a smaller one being repeated on the following day and if necessary also on the third day. In cases of laryngeal stenosis not less than 1500 immunity units are injected at once, and the same dose is repeated in from six to twelve hours and possibly from 1000 to 1500 units on the following day. In grave cases, in which the general intoxication is profound, a dose of 3000 immunity units is injected at once. Generally 4000 to 4500 immunity units are sufficient, but in rare cases as much as 6000 units are required. In some cases operative intervention has been averted by the administration of an emetic, the stenosis being, as a result, overcome for a few hours, until the antitoxin has time to exert its influence.

The local treatment in cases of pharyngeal diphtheria consists in the use of gargles of potassic chlorate or boric acid, but in the case of small children, incapable of gargling, local treatment is

entirely foregone. Only in severe septic cases are applications of solution of ferric chloride, 1 to 5 or 1 to 10, made to the pharynx and sprays of antiseptic solutions practiced. The use of the ice-collar and the swallowing of bits of ice are practiced only when the glands of the neck are enlarged and deglutition is painful. The general measures consist of rest in bed, a nutritious diet, and the treatment of complications. Cases of laryngeal diphtheria and of tracheotomy are kept in a room whose air is saturated with steam.

There are at present few specifics in therapeutics, and the antitoxin of diphtheria must be considered one of the most important and most reliable of these. To be most effective it should be employed early and in sufficient dosage. No seriously unpleasant secondary results need be feared from such a course, and if these injunctions be observed, we may hope that the mortality from diphtheria, which already has been reduced to half of what it formerly was prior to the introduction and general employment of the antitoxin, will be still further reduced. Even now much of the terror formerly aroused by the development of a case of diphtheria in a household has been removed because of the more hopeful outlook in the individual case and of the powerful weapon for attack and defense that has been placed in the physician's hands in the form of the antitoxin injected for both curative and prophylactic purposes. Editorial (Journal of the American Medical Association, April 19, 1902).

ECLAMPSIA.

The abstraction of blood gives rise to: 1. An immediate favorable change in the woman's appearance; the cyano-

sis of the face, the rigidity of the muscles, the spasms and twitching which are often noticed even during the stage of deep coma all stop at once. 2. The pulse, be it ever so hard, loses its tenseness. 3. The coma, no matter how deep, yields either abruptly or slowly, but surely. In transfusion the author found (1) improvement in the pulse; (2) that it induces free sweating and free micturition; (3) it produces intense thirst in the awakened patient, which causes her to drink copiously, and this is very desirable. R. Abrahams (Medical News, May 24, 1902).

Treatment may be considered as preventive and curative. Under the first division the use of a milk diet with lime-water or carbonated water is advised as the best diet. Then stimulation of all the emunctories, the chief ones being the bowels, skin, and kidneys, and in a minor degree the lungs. For the bowels 1 or 2 drachms of phosphate of soda may be given, well diluted with hot water before breakfast, supplemented once or twice a week by fractional doses of calomel before retiring; aloin, belladonna and strychnine pill may be added, if necessary. The skin should be kept active by hot baths of twenty minutes' duration twice a week or even daily. The patient can be wrapped in blankets and surrounded by hot-water bottles, or hot-air baths may be given when the conveniences are at hand. For the kidneys the copious use of water in addition to milk is advised. Basham's mixture is a favorite remedy. If a more active diuretic is desired, calomel, squills, and digitalis are recommended. If the pulse is of high tension, nitroglycerin is advised for a brief time. Suitable exercise in the pure air has some value.

In the second stage, if the renal in-

sufficiency continues, labor must be induced.

For the treatment of the convulsions themselves venesection in the strong is of good service; 12 to 30 ounces may be withdrawn. Inhalations of chloroform can also be used. Veratrum viride has been used in 10-minim doses of Norwood's tincture with good results. Chloral and bromide are valuable adjuncts to the medicinal treatment. Morphine is not advised. The use of normal salt solution either under the skin or into the bowels fulfills two valuable indications: (1) that of diluting the poisons in the blood; (2) that of increasing the activity of the kidneys, thus getting rid of the waste-products of metabolism. If there is a desire for prompt action of the bowels, 2 or 3 drops of croton oil placed on sugar on the back of the tongue will have the required effect. W. E. Parke (Medical News, May 24, 1902).

EMBALMING.

Modern methods of embalming are much simpler than those used by the ancients. Embalming should always receive the direct attention of the qualified medical attendant of the deceased, and not be relegated to the undertaker or some one employed by him.

The most suitable period to select for the process is about twenty-four hours after death, at which time *rigor mortis* has nearly passed off. Whether the operation is undertaken for temporary or permanent preservation of the body, the plan of procedure should include the introduction into the tissues through the vascular system of a preservative fluid, and externally the same should be applied. If gas or fluid be present in the thorax or abdomen, it should be re-

moved and the preservative fluid injected in its place. The fluid may be injected either into the brachial artery, femoral artery, or abdominal aorta. The abdominal aorta is most suitable on account of its large size, and, if venous engorgement follows the injection, this can be relieved by incising the vena cava. There is a great danger of rupture of a blood-vessel during the process of injecting the fluid, and care should always be exercised in not exerting too great a force. Pressure should be applied evenly. The preservative fluid should always be of sufficient quantity and energetic enough in its action to prevent putrefaction of the body for the period required, and must be sufficiently fluid to pass through the capillaries into the tissues. A good preservative solution for the blood-vessels should contain bichloride of mercury, glycerin, and methylated spirit. J. G. Garson (Lancet, May 10, 1902).

EPILEPSY.

A rise of temperature follows about 45 per cent. of all attacks, the temperature going highest, as a rule, after *grand-mal* seizures, in which muscular contractions are greatest, but also sometimes reaching 102° F. or over, in *petit mal* and psychical attacks, probably indicating, in the latter case, the disturbance of the thermal centers in the brain.

Treatment demands that the epileptic and his disease be considered as a unit and treated as such. As antispasmodics, camphor, opium and its derivatives, valerian, and belladonna are valuable. The opium-bromide treatment of Flechsig is valuable in some cases. In a case of *status epilepticus* the best formula for stopping the attacks is the following:—

℞ Potassium bromide, 2 ounces.
Chloral hydrate, 5 drachms.
Morphine sulphate, 2 grains.
Deodorated tincture of opium, 60 minims.

M. Add enough water to make sixteen ounces, and give the patient one ounce after he has had six attacks in rapid succession. Repeat in two hours if not effective. William P. Spratling (Journal of the American Medical Association, May 3, 1902).

ERYSIPELAS.

Out of a series of ninety-eight cases, in eighty-six diplococci were found which were submitted to the usual culture-tests, and the author describes specifically as spherical cocci, usually occurring in pairs, within or without the leucocytes, and at times apparently encapsulated. This diplococcus stains readily by aniline gentian-violet, by carbol-fuchsin, and by Gram's method. It is aerobic and grows best at 31° C. It is non-motile. Glycerin-agar shows minute, opaque colonies in twenty-four hours; blood-serum, a more luxuriant growth. Gelatin is not liquefied; no growth upon potato. Bouillon cultures injected into rabbits produced distinct erysipelatos inflammations from which the identical diplococcus could be isolated. The author believes that this coccus is the most common cause of erysipelas or of a disease which cannot at present be differentiated from it. Koch's postulates have been demonstrated with reference to the organism. G. E. Pfahler (Philadelphia Medical Journal, April 19, 1902).

FRACTURES OF THE LOWER END OF THE RADIUS.

In these fractures reduction can rarely be effected without the exercise

of considerable force. Students are seldom taught that this fracture is one eminently needing to be "set," and that this process requires nearly all of the force that can be exerted with the two hands. It should be remembered that the palmar surface of the radius is concave, while the dorsal surface is nearly flat, and that these curves should be restored by the process of "setting" the fracture. The method is not so important as the exercise of the requisite amount of force. There is a slight elevation on the dorsal aspect of the radius, just at the point where the extensor tendons run in grooves. The surgeon must force forward the lower fragment which has been thrust backward by the force of the injury. Reduction might be effected without anæsthesia if the surgeon were quick and bold, though the pain for the moment is very severe.

When the fracture has gone unreduced for several weeks it is better to employ general anæsthesia. This should always be employed if the surgeon is so afraid of giving pain that he is likely to slight his work. Pressure with the surgeon's finger-tips will usually show him if the normal curves of the bony surfaces have been restored.

When the fracture has been thus reduced the patient will hardly have any further need for the surgeon. A patient who can be trusted not to subject the forearm to muscular strain and not to fall upon it will probably do well if he only wears a sling for three weeks. It is usually safer, however, to apply a straight posterior splint, extending from the middle of the forearm to the middle of the metacarpus. In many cases a wristlet of adhesive plaster, three or four inches wide, will be found a simple and efficient dressing for this fracture. If these simple suggestions are heeded,

no fracture will be so welcome as that of the lower end of the radius, because of the speedy convalescence and the very satisfactory results. J. B. Roberts (Medical Record, April 19, 1902).

HEART, SURGERY OF.

In suturing heart-wounds gentle manipulation may be applied without producing shock. The introduction of the suture produces but a slight irregularity in the heart's action. Heart-wounds heal rapidly. Intracardial pressure is increased, even if hæmorrhage occurs during diastole alone. All heart-wounds, in which there is danger of fatal hæmorrhage, should be sutured. If the wound does not involve the pleura, the extrapleural route should be employed. If the pleura has been injured, the intrapleural method should always be employed, and the flap devised by Rotter is to be preferred. H. L. Nietert (Philadelphia Medical Journal, May 3, 1902).

HEART-MURMURS, POSTURE AND.

If anyone who has a considerable number of cardiac cases and cases of anæmia coming under his notice takes the trouble to examine these cases systematically both in the recumbent and sitting postures, he will find that change from one to the other position produces effects on the cardiac sounds which are generally obvious and sometimes profound. In making such observations there are several sources of error which have to be avoided.

Influence of exertion: To get rid of this the change of position must be effected by an assistant, so that no effort is made by the patient himself.

The transitory effect of the change of conditions: A few pulse-beats should be allowed to pass after changing the posture before listening again to the heart.

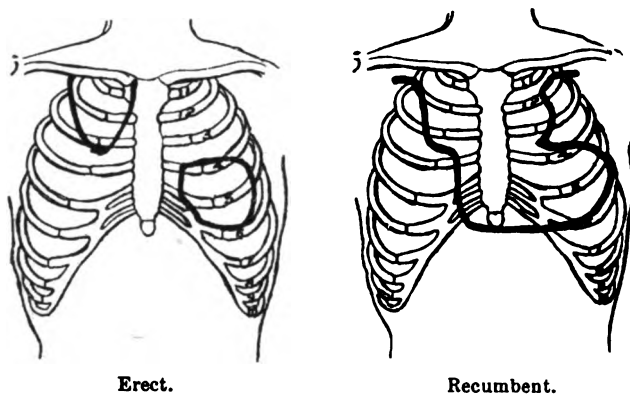


Fig. 1.—Two "hæmic" murmurs fusing on recumbency. (*Gordon.*)

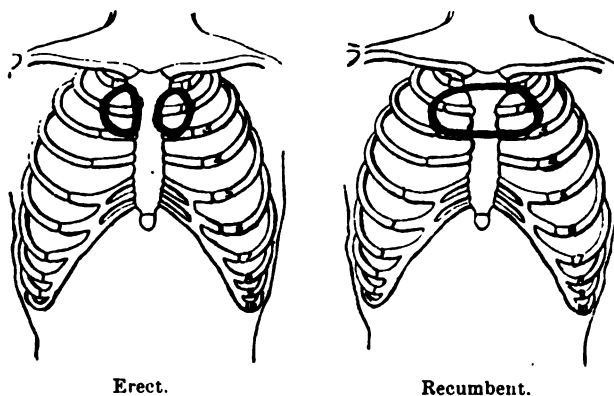


Fig. 2.—Fusion of two "hæmic" murmurs on recumbency. (*Gordon.*)

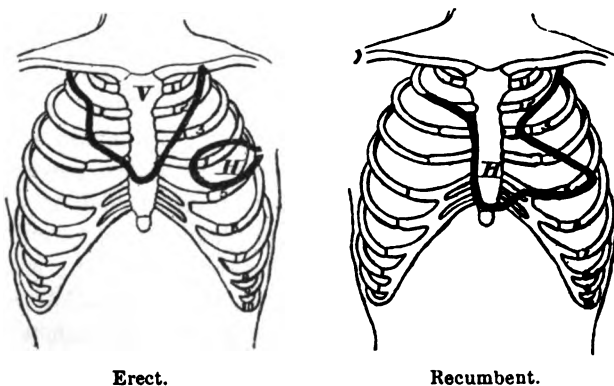


Fig. 3.—Chlorosis. The venous hum vanished on recumbency. *V*, area of venous hum; *H*, area of "hæmic" murmur. (*Gordon*)

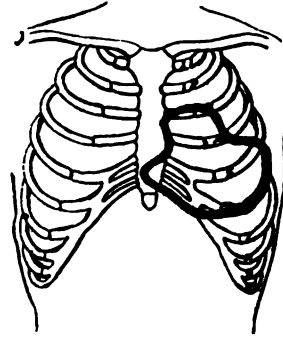
(*British Medical Journal*, March 15, 1902.)

Possible influence of altered adjustment of the stethoscope: The observations should be made with a straight wooden stethoscope.

"Cardio-pulmonary" murmurs: These should be excluded. Their dependence on respiration, their limitation to an area overlying the edge of the lung, and the fact that they do not follow the lines of conduction which characterize intracardiac murmurs should suffice to distinguish them. Potain's sweeping statement (that all murmurs which almost or altogether disappear when a change is made either from the sitting to the recumbent or from the recumbent to the sitting posture are cardio-pulmonary) is not in accordance with the facts.

Having avoided these errors, it will be found that, although most murmurs are better heard when the patient lies down than when he sits up, this is by no means universal. There are mur-

ing, but on consideration it will be discovered that, instead of hindering, they actually help us to arrive at an explana-

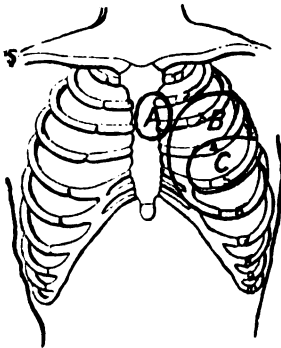


Recumbent.

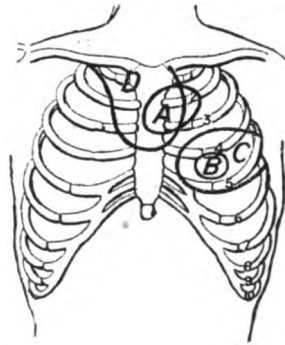
Fig. 4.—Systolic mitral murmur after rheumatic fever. The murmur was inaudible in the erect position. (Gordon.)

(British Medical Journal, March 15, 1902.)

tion of the whole series of phenomena. In order to make this clear, I will briefly consider the effect of posture on each



Erect.



Recumbent.

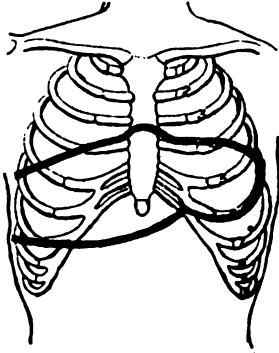
Fig. 5.—Case of well-marked mitral disease, with slight aortic disease. There was a marked presystolic thrill. The presystolic murmur was clearly not "Flint's murmur." A, area of aortic regurgitant murmur; B, area of mitral stenotic murmur; C, area of mitral regurgitant murmur; D, area of aortic stenotic murmur. (Gordon.)

(British Medical Journal, March 15, 1902.)

murs which are uniformly influenced in the opposite direction, and there are murmurs in which position produces practically no effect. At first sight these differences seem merely bewildering,

sort of murmur separately, confining the consideration to the commonest murmurs and to the two commonest positions, of sitting (or standing) and lying down.

1. *Hæmic Murmurs in the Pulmonary Area.*—The systolic murmur heard over the pulmonary artery is the murmur



Erect and recumbent. Area of systolic murmur.

Fig. 6.—Tricuspid regurgitation, with adherent pericardium and very extreme mitral stenosis. No mitral stenotic murmur was audible when this figure was traced. The tricuspid murmur had, some months earlier, been louder and more extensive on recumbency, being then audible almost all over an enlarged and pulsating liver. (Gordon.)

(British Medical Journal, March 15, 1902.)

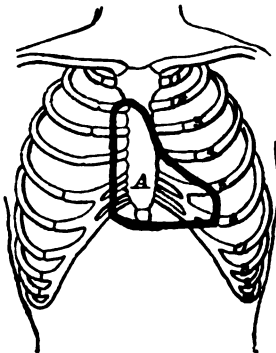
whose variations with varying posture have been definitely insisted on. Dr. Sansom says it is “greatly influenced”

edly increased by lying down, and a murmur may even be developed which was inaudible in the erect position. Moreover, the area of audibility may be greatly extended; a murmur which is heard over quite a small area while the patient sits may become audible over an area three or four times the size when she lies down.

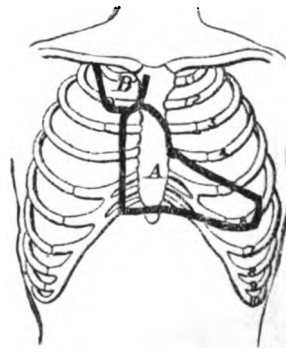
2. *Hæmic Murmurs at the Apex.*—The systolic apical murmur is also greatly influenced by posture, both in loudness and area of audibility. Figure 1 illustrates the increase in area.

3. *Hæmic Murmurs in the Aortic Area.*—Figure 1 also illustrates the fusion of two systolic “hæmic” murmurs,—one apical, the other “aortic,”—in consequence of each becoming audible over a wider area when the patient lies down. Figure 2 similarly illustrates the fusion of a “pulmonary” with an “aortic” hæmic murmur.

4. *Venous Hum in the Neck.*—Although this is not a cardiac murmur, it is necessary to refer to it here. It has



Erect.



Recumbent.

Fig. 7.—Aortic disease. The aortic regurgitant murmur was, if anything, rather fainter when she lay down. The aortic stenotic murmur was inaudible when she sat up. A, Area of aortic regurgitant murmur; B, area of aortic stenotic murmur. (Gordon.)

(British Medical Journal, March 15, 1902.)

by the position of the body, being louder as the patient returns to the recumbent posture. This murmur is often mark-

been said to be “heard best in the standing position, being favored by gravitation.” In my experience it is often

heard only in the standing position, being altogether lost on lying down. Figure 3 represents the changes in the areas of venous hum and "hæmic" murmur which were observed in a case where the hum was unusually widely heard.

1. *Mitral Regurgitation*.—The influence of posture is often pronounced in cases of recent murmurs developing in the course of chorea or acute rheumatism. These murmurs tend to be more evident when the patient is lying down. Figure 4 is taken from a case in which

audible when the patient was recumbent. Figure 5, taken from a case of marked mitral stenosis and slight aortic regurgitation, serves to illustrate the increase of area of the presystolic mitral murmur consequent on assuming the sitting position.

3. *Tricuspid Regurgitation*.—This murmur seems to be sometimes increased on lying down, but less so than is the murmur of mitral regurgitation. In the case from which Figure 6 was taken no change could be detected, but in this case the pericardium was adher-

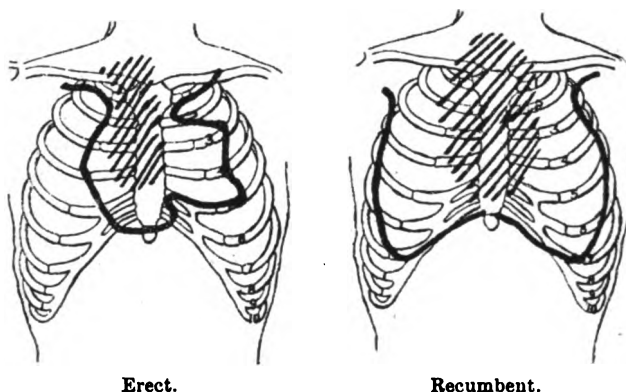


Fig. 8.—Aortic stenosis. The shaded area indicates the maximum of the murmur. It became much louder on lying down. (Gordon.)

(British Medical Journal, March 15, 1902.)

a systolic apical murmur conducted toward the left axilla developed in the course of acute rheumatism. Posture also usually exerts the same influence on the systolic mitral murmurs of confirmed valvular disease, and of dilated auriculo-ventricular orifice, but apparently not so markedly as in recent valvular murmurs.

2. *Mitral Stenosis*.—Here just the reverse appears to obtain. The presystolic murmur of mitral stenosis tends to be louder and more widely heard when the patient sits up. The loudest mitral presystolic murmur heard was scarcely

ent. Some months previously, however, there was a very obvious increase on lying down.

4. *Aortic Regurgitation*.—Here posture has remarkably little effect. Sometimes recumbency seems to lessen the murmur a little, sometimes to increase it a little. The area of audibility remains about the same size, though it sometimes slightly shifts its position. See Figures 5 and 7.

5. *Aortic Stenosis*.—On the other hand, the murmur of aortic stenosis is often considerably increased by recumbency. See Figures 5, 7, and 8.

SUMMARY OF EFFECTS OF RECUMBENCY.

In short, recumbency seems to tend to

<i>Increase</i>	the murmurs of	mitral regurgitation.
"	"	tricuspid " (to a less
"	"	aortic stenosis. (degree).
"	"	anæmia, "pulmonary."
"	"	"apical.
"	"	"aortic."
<i>Decrease</i>	"	mitral stenosis and the
		venous hum of anæmia.
<i>Leaving unaffected</i>	the murmur of aortic regurgitation.	

W. Gordon (British Medical Journal, March 15, 1902).

HIP-JOINT DISEASE.

In hip-joint disease two lines of extension are absolutely necessary for the relief of intra-articular pressure. One of these must correspond with the axis of the neck of the femur because the glutei group and adductor muscles, which are affected by spasm, act upon a line with this axis. The other must correspond with the axis of the shaft, because the iliacus internus and psoas muscles, which are also in a state of spasm, act on a line with the latter axis. All patients with deformity should be put to bed, with extension in the line of deformity and at right angles to that line. In fact, the treatment of any case of joint disease should be begun by overcoming the deformity, as a straight brace cannot be successfully applied to the deformed limb. There is hardly any deformity in joint disease which cannot be best overcome by extension in bed and by forcible means under anæsthesia. After the deformity has been overcome, a lateral traction or fixation brace, devised by the writer, is used, which is perfectly straight and which, when properly applied, will prevent future deformity. The theory that longitudinal traction relieves intra-articular pressure is erroneous. The glutei and adductor groups of muscles are pulled upon, and, by the direction of their origin any exertion must necessarily force

the head of the bone into the socket. Cases treated with this splint seldom recover with ankylosis. It is very important to recognize the fact that no case of hip-joint disease recovers inside of two years, and 75 per cent. of the cases brought to the writer have abscess as the result of premature removal of the brace. After the patient has worn the brace for eighteen months or two years and the muscular spasm and the disease have subsided, a walking brace should be applied, which protects the child from injuring the limb if he falls. Joints are frequently seen with all the symptoms of inflammation, which recover within a few months; but this is simply a transitory condition due to normal inflammation, and if protected such joints will recover. If infection take place, however, disease occurs and the abscess results, tuberculous, purulent, gonorrhœal, or pneumococcal, and frequently surgical intervention is necessary. A. M. Phelps (Medical News, May 31, 1902).

HYPNOTIC REMEDIES.

The quick and sure action of chloral hydrate is largely due to its ready solubility, which also accounts for certain methods employed in its use. If one seeks the action of chloral hydrate in its molecular constitution it is found to rest on its being a condensation product which splits up in the organism into its components. A similar combination is found in amyl hydrate, with which, under certain conditions, chloral hydrate forms dimethylethyl-carbinolchloral, or "dormiol." In experiments made on rabbits with chloral hydrate, dormiol, and a mechanical mixture of chloral and amylene hydrate, dormiol gave the slowest results. Koch and Fuchs (American Medicine, May 31, 1902).

IMMUNITY, INHERITED.

Inherited immunity may conceivably be either active or passive. Induced by his researches to believe that immunity transmitted to offspring is not really hereditary, but acquired by the ovum or foetus in the body of the mother, the writer has carried out further researches to test this belief. The particular form of immunity studied was that to diphtheria toxin, and the material used was the eggs of hens. Antitoxin demonstrable only in the yolk of the egg was found, and proved that it is not destroyed by any enzymes making their appearance during the development of the egg, but penetrates into the foetus. In the latter it is confined, for the most part, to the serum of the blood. In the yolk the antitoxic principles are, for the most part, localized in the formative portion. The antitoxin can be extracted from the yolk by water and separated by dialysis; it passes unchanged through the Chamberland filter and does not contain phosphorus, and therefore does not belong to Hoppe-Seyler's group of vitellin substances. In all probability it is a globulin, and identical with the substances of globulin nature described by Gross as existing in the yolk. The author has arrived at the following conclusions: The albuminoid substances contained in the yolk and endowed with antitoxic properties correspond in character with those of the blood-serum. As the antitoxin of the blood can pass into the yolk unchanged, so it can pass from yolk to foetus without modification; it would appear from this that inherited immunity does not depend on a capacity acquired by the embryonic cells to elaborate antitoxin, but simply on the fact that antitoxin passes from the maternal blood to the foetus. In other words,

natural immunity is not an active immunity transmitted by the mother and showing itself in a capacity of the cells to manufacture antitoxin, but it is a passive immunity determined by the amount of antitoxin which has passed into the foetus, and which has nothing to do with any activity of the cellular elements of the offspring. Dzierzgowski (*Archives des Sci. Biol.*, tome viii, No. 5; *Brit. Med. Jour.*, May 10, 1902).

INFANT-FEEDING, BEEF-JUICE IN.

Much has been recently said of the evils of feeding beef-juice to children during infancy. There is good reason to think that during the period of literal infancy—that is, the non-speaking first two years—beef-juice is not to be employed as a regular article of diet, unless especially indicated. There seems no doubt, however, that at times its employment is not only justifiable, but entirely in accord with rational thought in the etiological treatment of infantile affections.

Of late years we have become familiar once more with scorbutic affections in children. It was thought that, with our greater attention to dietary regulation, such ailments would not occur unless very exceptionally in our modern life. In these cases beef-juice has appeared to many specialists in children's diseases to supply most suitably the salts whose deficiency in the child's previous diet gave rise to the scorbutic symptoms. Its employment is much more consonant with the idea of treating the child through modifications of its food than by the use of remedial measures of other kinds. Even the vegetable and fruit acids must be considered somewhat in the light of chemical remedies for a condition the exact origin of which is

unknown, and whose chemism is at best not completely understood.

Perhaps no more startling bit of information has ever been furnished the medical world than the announcement during the preceding generation that the much-prized bouillon and beef-tea of our forefathers was a good stimulant, but not a nutrient. It had often been said that a pint of beef-tea contained almost the entire nutritive qualities of a pound or more of beef. The introduction of extract of beef seemed to furnish concentrated food in eminently palatable and digestible form. Travelers and explorers carried it with them with this idea, and they were not disappointed in it. Experience proved that there was nothing so uplifting after severe fatigue as this cup that cheered, but did not intoxicate. Then came the chemical revelation that it was not because of any nutritive value, but because it was a natural stimulant that extract of beef gave its excellent results. Beef-extract proved to be, not essence of beef, but mainly a composition of the organic meat salts and extractives that are at once tonic and appetizing, though not purveyors of nutrition.

The revulsion of feeling occasioned by the unexpected announcement of a deficiency of nutritive value where so much had been predicted led to the depreciation of meat preparations of all kinds. Meat-juice and other materials that contain large quantities of the albuminous portions of meat shared in this condemnation. As always happens in the history of medicine, the pendulum of medical opinion swung too far to the other extreme. It is, under the influence of this other and equally fallacious exaggeration of opinion that we hear meat-juice preparations so unsparingly condemned by certain clinical

authorities who do not know the actual chemical status of these substances. Not a little has been said recently with regard to the merely stimulant effect, especially when employed as an ingredient in infantile feeding. Needless to say, the properly expressed juice of meat is a precious, concentrated, yet readily digestible, food. To speak of meat-juice as "beef-cocktail" is to misapprehend entirely its nutritive significance and to mistake its chemical contents. Properly prepared beef-juice is stimulant, but this effect is only of secondary importance compared to its positive nutritive value. To confound beef-extract and beef-juice is to make a serious error. To condemn one because of the other is to deprive the physician of a very important practical auxiliary in the treatment of exhausted conditions, no matter whence derived and whether occurring in adults or in children. *Medio tutissimus ibis*—there is safety in a middle course. Beef-juice is not a remedy for every disturbance of nutritive metabolism in the child; it is, however, a very precious accessory to other natural and drug methods of treatment, and its indications and limitations should be studied further. Its value will repay the investigators. Editorial (Medical News, May 31, 1902).

INTESTINAL OBSTRUCTION.

Cases successfully treated with quicksilver. In a man of 60 years operation was refused, and $\frac{1}{2}$ pound of mercury was administered in the ninth day. In the second case, a man of 80 years, operation was considered inadvisable because of the patient's age, and the same dose of quicksilver was given on the third day. The symptoms were typical in each case, and were promptly relieved by the mercury. In neither instance

did the drug produce an increase of abdominal pain, nor were there any other symptoms of mercurialism. J. McK. Harrison (*British Medical Journal*, April 26, 1902).

JOINT DISEASES.

Mechanical treatment should be commenced just as soon as the diagnosis of joint inflammation or disease has been made. If there be an acute attack, with great pain, it is advisable that the patient should be treated in bed for a few days until relief is obtained; but as soon as the pain has subsided and the deformity has been overcome, mechanical support should be applied. The object of the treatment is to restrict every motion of the joint and to effect extension in proper lines for the relief of intra-articular pressure. This pressure, which is produced by muscular spasm, is likely to result in destruction of the entire joint, necessitating either amputation or excision. The manner of application of fixation and extension is determined by a study of the mechanics of the various joints and of the action of the muscles involved. As they sustain the weight of the body, the joints of the lower extremities require very much more protection than do those of the upper extremities. Braces for lower-extremity joints should prevent the patient from stepping upon the foot, as by so doing the articular surfaces would be driven together and more inflammatory action and disease result. It is therefore advisable that any form of apparatus designed for the lower extremities, especially in the case of children, should extend at least two and one-half inches below the bottom of the foot, and should have a point of impact against the tuberosity of the ischium. By far the best supporter is one that has

for its upper point of impact a steel ring properly padded. In the case of an adult with intelligence enough not to step upon the diseased limb, other appliances may be used. A. M. Phelps (*Medical News*, May 31, 1902).

KNEE-JOINT, GUNSHOT WOUNDS OF.

As observed during the Spanish War, gunshot wounds of the knee-joint by the projectile of reduced caliber may, as formerly, be classified as follows: 1. Simple perforation of the synovial sac without accompanying lesions of any bone. 2. Injury to the joint with lodged ball. 3. Injury to the joint exhibiting guttering of the articular ends of the bones. 4. Complete perforation of the bone, traversing the joint in different directions. 5. Implication of the joint by fissuring the comminution of the bones entering into its formation.

During the pre-antiseptic period the treatment employed was: (1) amputation; (2) conservatism; (3) excision. This was followed by a clean wound treatment, inaugurated by the advent of antiseptics. The predictions of von Coler, that, if it be found that wounds by the smooth-bore are aseptic, joint-wounds will be the most favorable of all bone-injuries to treat, have been fully established, as the following summary shows: (1) the mortality of gunshot injury of the knee-joint in the Civil War was 53.7 per cent., and, as amputation was universally done, all those who recovered escaped with the loss of a limb, unfit for duty; (2) 33 cases of gunshot wounds of the knee produced by the larger-caliber lead bullet in campaign, reported by Reyher and von Bergmann, treated antiseptically, gave a mortality of 11.1 per cent.; (3) 62 cases produced by a variety of missiles reported by the Surgeon-General since

1898, similarly treated, gave a mortality of 8 per cent., and 45.6 per cent. of those who recovered were restored to duty; (4) of 19 cases in the Santiago campaign by the reduced-caliber bullet, the mortality was *nil*, and 73.6 per cent. of the wounded recovered fit for duty.

It thus becomes evident that the humane features of the reduced-caliber bullet have operated not only in diminishing the mortality in gunshot injuries of the knee from about 8-11 per cent. to *nil*, but that it has increased restorations to duty 28 per cent. L. A. la Garde (Boston Medical and Surgical Journal, May 22, 1902).

LEPROSY.

It is a very important question whether leprosy is or is not contagious. At the last conference in Berlin the different investigators could not agree on this point, though the majority were in favor of the theory of contagion. Since the discovery of the exciting cause of the disease (*lepra bacillus*) the theory of contagion has won many adherents at the expense of the theory of heredity. If, after many years' work among the lepers, the author speaks out in favor of the theory of heredity, it is for the following reasons:—

1. That, in the thirty-three years of the existence of the Leper Hospital in Jerusalem, no case of direct contagion has occurred in one institution.

2. That the true cause of the disease has not as yet been positively determined.

3. Observation of the fact that the disease has a preference for those families in which it has occurred for generations.

With regard to the first reason, the fact that neither a nurse nor doctor has been attacked by the disease in this in-

stitution goes to show that, if there is any danger of direct contagion, it must be very slight, indeed. The nurses come in very close contact with the disease in cleansing and dressing the frequently very extensive suppurating sores, and in washing the clothes of the lepers. The physicians not infrequently have operations to perform on the lepers, such as teeth-extraction, opening abscesses, or removing limbs. No case of direct contagion has ever come to the writer's knowledge. The few cases that have been brought to him for a diagnosis have all come from localities where leprosy is known to flourish or from the seaports of the Mediterranean. In spite of the fact that the law prohibits lepers from coming within the walls of Jerusalem, every opportunity is afforded for contagion. Several women, who, before the disease had advanced far enough to make it necessary for them to leave the villages in which they lived, used regularly to bring fruit, vegetables, milk, etc., into the city, and sell them. For over seven years one man has been connected with leprous settlements in Siloam, bringing provisions, cleaning the rooms, and being in close relationship with the lepers, without so far showing any signs of the disease. In one village (Nablus) there is an Arab family paid by the lepers to take care of them, and, in spite of the close intercourse and the total absence of any precautions, not a single case of contagion has occurred.

With regard to the second point, the author says, so far as he knows, no investigator has succeeded in securing a pure culture of the so-called *bacillus lepræ*, nor has the disease ever been communicated to an animal. According to Professor Koch, these two conditions are necessary before we can deter-

mine positively the cause of an infectious disease; so that it may justly be doubted whether the bacillus can alone produce the disease, so long as the evidence already advanced against contagion cannot be disproved. The so-called *lepra bacillus* can scarcely be distinguished under the microscope from the organism found in tuberculosis and lupus. So true is this that leprous nodules, from cases of undoubted leprosy, which had been sent to Europe for examination, have been reported as lupus, and not leprosy.

Finally, with regard to the third statement, it is very difficult to get any evidence from the lepers themselves. From the conditions of the institution from year to year and from the annual visits made to the relatives of inmates by the superintendent and chaplain, it has been found that they have relations afflicted with the same disease.

Both among the Mohammedan and Christian inhabitants of the villages it is the custom to marry relatives as closely connected as the law will allow. One is justified in believing that by means of this intermarrying the hereditary tendency to leprosy may be kept up, since it has an undoubted tendency to reappear in the same families, just as is the case in certain nervous diseases. In this country (Palestine), where no case of direct contagion has ever been observed, this is all the more probable. If further investigations should result in the production of a pure culture of the *lepra bacillus* and the production of the disease in animals by inoculation, still the author should ever believe that an hereditary tendency is necessary for the production of the disease in man.

In the face of this disease medical skill is, up to the present time, power-

less. A positive cure, in spite of the many methods of treatment, has never been obtained. We must, in the present state of our knowledge, confine ourselves to attempting to relieve the incurable sufferings of its unfortunate victims. Einsler, translated by L. E. Holmes (*Philadelphia Medical Journal*, May 31, 1902).

LIVER, SURGERY OF.

Portions of liver-tissue of considerable size may be safely removed by previously rendering anæmic the part which it is intended to remove. For the support of the ligatures, living tissue from the same animal, preferably the fascia and peritoneum from the abdominal wall, is best suited. The intraperitoneal or the intraparietal method is preferable to the external method. Carl Beck (*Journal of the American Medical Association*, April 26, 1902).

LOBULAR PNEUMONIA IN INFANTS, TREATMENT OF.

Death in lobular pneumonia, whether primary or secondary, is caused chiefly by exhaustion of the heart; this results both from obstruction to the pulmonary circulation and from septic poisoning. The treatment must be active, energetic, and instituted early. Under such treatment a great majority of infants will recover, and this statement is based on the fact that nearly two hundred cases of broncho-pneumonia in infants were treated with but one death.

The expectant plan, so highly lauded by some physicians in the management of pneumonia in the adult, is inapplicable in infants, because catarrhal pneumonia is not a self-limited disease, and delay in treating it is very apt to be attended by a continuous and rapid extension of the inflammation; and hence the great mortality.

The author's method is as follows: When called to a case of broncho-pneumonia in an infant, he immediately prescribes a moderate dose of *spt. ætheris nitrosi* and *liq. ammonii acetatis*, to be repeated every two to four hours, and directs the application of a poultice consisting of the following ingredients: 5 parts each of flaxseed-meal and camphorated oil, 1 to 2 parts of mustard, and a sufficient quantity of *boiling* water to make a thick paste by thorough stirring. This mass is spread on thin gauze or paper and applied snugly to the chest and back; the child is then wrapped in an oiled-silk jacket, lined with absorbent cotton, and in a blanket, which, with the hyperpyrexia of the body, maintains the heat of the poultices, which require renewal but three or four times in twenty-four hours. This poultice has special advantages over any other in use. As just mentioned, it requires but occasional changing, thus saving time and labor and avoiding unnecessary exposure of and annoyance to the patient. The mustard and camphor act as mild counter-irritants, and after some time bring the blood to the surface, thus relieving the pulmonary engorgement. Furthermore, the skin over the chest and back does not become "soggy and sodden," or "waterlogged," from the use of this poultice, as is apt to occur from prolonged application of ordinary flaxseed poultices.

The excellent effects obtained from the mode of treatment just related are usually apparent within a few hours; in fact, they are at times marvelous. The suffering child who but a short time before had been on the verge of collapse—moaning, tossing, and twitching from pain and distress, gasping and panting for a free breath of air—now lies peace-

fully and enjoys calm repose or healthful sleep. Free perspiration having been established by means of the poultices and enhanced by the diaphoretics, the system having thus been relieved of a considerable quantity of toxins, the attack is practically checked. Nevertheless, expectorants, stimulants, nerve-sedatives, and alteratives are resorted to if indications arise. The poultices are renewed less frequently. Many cases will be found to recover very rapidly after the induction of free perspiration, while others may linger around for weeks with occasional exacerbations of the disease, but generally come out well at the end. The author does not share the prejudice against expectorants. He prescribes them often and at times quite freely, if necessary. When an infant is tormented by an incessant, dry, hacking cough, and a train of nervous phenomena which are associated with it, which tax the skill and patience of the attendant, small and frequently-repeated doses of wine of ipecac or syrup of senega or squill will often give considerable relief, allay the nervous irritability, and permit the patient to refresh upon a brief period of rest or sleep which is invaluable in this disease. Moreover, by enhancing expectoration the lungs rid themselves of a considerable quantity of effete material which more or less obstructs respiration, and produces auto-infection by being absorbed into the system. The tent made of bed-sheets hung around the bed and moistened with creosote, oil of eucalyptus, and the like is highly to be recommended for the purpose of promoting expectoration, especially as these remedies, when inhaled, act also as antiseptics on the pulmonary tissues.

Stimulation is of very vital importance in every case of pneumonia in

children, and ought to be administered from the earliest inception of the attack. Strychnine sulphate in gradually increased doses is preferable to any other stimulant, as it acts both on the cardiac ganglia and cardiac and respiratory centers, but occasionally digitalis and nitroglycerin are resorted to. Whisky is useful only either in the very beginning or end of the disease, or may be given with milk or eggs more as a food. As to the question of feeding, the latter two foodstuffs and beef-juice form about the most suitable diet; children refuse, as a rule, any kind of food, and it is often most remarkable how they withstand a very tedious and trying course of the gravest affection with hardly any nourishment at all. Like fish, they seem to thrive on water, and this beverage should be given to them *ad libitum*. About the sixth day of the disease the author begins the administration of sodium iodide in small doses, and if there are any signs of pleurisy with effusion he directs the application to the affected parts of the following ointment: 1 part each of oil of gaultheria, guaiacol, and ichthyol, and 4 parts of iodine ointment. This ointment relieves pain and promotes the absorption of the fluid. Indeed, it is to this ointment more than to any other remedy employed that the author attributes his success in preventing pyothorax. In case of very pronounced nervous irritability, restlessness, or wakefulness, he resorts to sodium bromide, with small doses of antipyrin. H. B. Sheffield (Post-graduate, April, 1902; Merck's Archives, May, 1902).

MALARIA, BLOOD-AGGLUTINATION IN.

Study of the agglutinating property of the blood of malarial patients. The

blood or the serum of a healthy man mixed with the blood of another healthy man does not produce any agglutination. The serum of a healthy man acquires the agglutinating property when it is obtained in a manner which injures the red blood-cells. The addition of a solution of sodium chloride, containing 1 per cent. of a quinine salt, to the blood or the serum of a malarial patient destroys the phenomenon of agglutination. This property may serve as a means of diagnosis between the serum or blood of a healthy, and that of a malarial, person. In the malarial serums so treated the failure of the agglutinating phenomenon to disappear indicates the presence of another infectious process. D. Lomonacio and L. Panichi (Riforma Medica, Feb. 11, 12, and 13, 1902).

MALARIA, NERVOUS DISTURBANCES DUE TO.

Malarial neuritis presents most of the symptoms familiar in other toxæmic forms of neuritis. In the differential diagnosis the following points are important. In malarial neuritis: 1. The course of the disease is intermittent, these intermittences corresponding to the febrile accesses. 2. The tendon-reflexes are frequently preserved, and may even be exaggerated; tremor, ataxia, and athetoid movements in the parietic limbs are not uncommon, and at the onset there may be bulbar symptoms. 3. The sensory disturbances are irregular and dissociated, sometimes grouped according to the wearing of gloves or stockings, and frequently suggestive of hysteria. 4. The rarity of complete reaction of degeneration in the paralyzed muscles. 5. The frequency of vasomotor and trophic disturbances. 6. The almost constant fail-

ure of sphincter trouble. These are the chief directions in which malarial neuritis may be separated from other forms of neuritis. Schupper (Il Policlinico, N. 5, f. 4, 1902).

MEASLES.

Tincture of aconite, in 1-drop doses, is serviceable in addition to spirit of Mindererus. Vomiting is best relieved by giving the stomach rest. Rectal alimentation and rectal medication should be resorted to during these intervals. When the nose and the pharynx discharge freely and irritate the child, irrigation with some bland antiseptic, such as a 1-per-cent. boric-acid solution, will be useful. When the expectoration is swallowed an emetic is useful in removing the accumulated viscid secretion, if it is very annoying. Steam, impregnated with eucalyptus or oil of thyme, will be found useful when the cough is distressing. Malt-extract for the relief of cough is a very favorable preparation. One of the most frequent causes of death, next to pulmonic complications, is intestinal catarrh, and, consequently, great care must be exercised in the use of purgatives. Louis Fischer (Medical Record, April 12, 1902).

MITRAL OBSTRUCTION.

Mitral obstruction is usually fatal before the age of 40 is reached. Females are little more prone to it than males. There is apt to be a marked contrast between a strong cardiac impulse and a feeble radial pulse. The true presystolic murmur occurred in 15 per cent. of the author's cases. It comes and goes, but is usually inaudible in the last stage. It is apt to have a loud rasping or sawing quality, but may be "gushing" or "whirring"; it may also be faint or inaudible. In about 40 per

cent. there is some sort of diastolic murmur. These murmurs are best heard over a rather limited area, somewhat oval in form, having for its center an area between the fourth left interspace, inside the nipple and the apex, and extending an inch or so to the right or the left; occasionally this murmur is heard best as low as the fifth, sixth, or even seventh left space; more rarely it is heard as high as the second left rib. In 10 to 35 per cent. there is a thrill over this area. The first sound at the apex is short and abrupt. The second pulmonary sound at the base is usually intensified. Occasionally a murmur with the second sound over the base is heard over the left auricular appendix. At first there is hypertrophy of the left ventricle; then atrophy of it, with hypertrophy of the left auricle; then follow dilatation and hypertrophy of the right heart. Mitral insufficiency must to some extent accompany mitral obstruction. In distinguishing the presystolic murmur of mitral obstruction from the Flint murmur of aortic insufficiency, we should rely on the "long heart" and the strong impulse, or the "Corrigan" of insufficiency, rather than auscultatory signs. T. E. Satterthwaite (New York Medical Journal, May 10, 1902).

MORPHINE POISONING.

The patient, a woman, had taken 8 grains of sulphate of morphine in three hypodermic injections. She had not acquired any tolerance for the drug. About an hour and a half after the injection of the drug into the system the patient became semiconscious, and soon sank into a state of profound narcosis. Three injections of $\frac{1}{50}$ grain of sulphate of atropine, and $\frac{1}{10}$ grain of nitrate of strychnine were administered without any perceptible effect. A dozen

injections of 20 minims of ether were also given with doubtful results. Artificial respiration was resorted to, as natural respiration had ceased, which was continued for four hours, when natural respiration was re-established. The strongest possible interrupted electric current was applied to the soles of the feet. Urine was drawn off through a catheter.

A quart of physiological salt solution was then infused into the subcutaneous tissues of the flank, with the result that almost immediate beneficial effect followed. Duskiness and coldness of the skin disappeared and consciousness returned. The good result was obtained by elimination of the morphine from the vascular system into the gastrointestinal canal. In order to prevent reabsorption of the drug, a weak solution of potassium permanganate was administered, the patient being given a wine-glassful every fifteen or twenty minutes until contraction of the pupils had passed off. The author contends that the saline infusion was responsible for the elimination of the poison from the circulation, and the permanganate as having aided the result by preventing reabsorption. E. F. Willoughby (*Lancet*, May 10, 1902).

NEPHRITIS, RETINAL LESIONS OF CHRONIC INTERSTITIAL.

A large majority of patients presenting retinal lesions die within a year after they are first discovered. Out of 419 of Bell's cases he found that 72 per cent. were fatal at the end of the first year and 90 per cent. within two years. Possauer reports that all men applicants at his clinics were dead within two years. Of the women, 32 per cent. survived that period. It seems that among private patients only 59 per

cent. of the men died within two years and 53 per cent. of the women. Edward Jackson (*Medical News*, February 15, 1902).

OLD AGE AND SURGERY.

As a general rule, old people tolerate pain better than do the young. Owing to the changes which have taken place in their nervous systems, their sensibilities are obtuse, and, therefore, they complain less, while, owing to the same condition of the nervous system, combined with other senile changes in the heart and other organs, shock is more severe and not so quickly rallied from. They endure operations for pathological conditions, such as the removal of tumors, cancers, etc., remarkably well, because they have in some degree acquired a tolerance to the gradual change and tissue-metamorphosis which render operations necessary. Their recovery from wounds is not so rapid, for the reason that the cells and intermediate substances are more rigid, and the softening process which changes the tissues when in a state of inflammation to a condition suitable for repair is slower. In the old, tissue-genesis predominates over suppuration. The growth of morbid tissue goes on at a more moderate pace; cell-division is not so rapid or general as in the young, and, as a consequence, there is less waste from pathological conditions. We can also see how the process of repair can take place more readily when there is but little excitement of the tissues, a condition often found in the aged which may partly explain their recuperative powers. It is, however, but reasonable to conclude that they are much less able to stand the shock of injuries and operations than are persons in the prime of life, owing to the senile changes which

have affected every organ of the body, and particularly the heart, blood-vessels, and nervous system. Hence, in shock lies the greatest danger to the aged, and, if the patient rallies, the prognosis, so far as repair is concerned, may be considered good. S. de Lancey Hicks (Southern Clinic, May, 1902).

PARESIS.

It is of the utmost importance to study carefully the symptoms of every so-called case of neurasthenia that comes before us. After physical signs have made their appearance the recognition of the disease is relatively easy; but it is during the initial period that the diagnosis should be made. It can be made by bearing in mind the clear and well-defined symptomatology of chronic fatigue,—neurasthenia,—on the one hand, and the special symptoms of the mental weakness and degeneration of paresis on the other. F. X. Dercum (Medical News, May 17, 1902).

In the present state of our knowledge it seems justifiable to conclude that: (1) syphilis is the most common factor in the production of paresis; (2) it may cause it directly—an exciting cause; (3) it may cause it indirectly by bringing about such a devitalization of the system generally as to render other influences operative; (4) it is not usually the sole cause, but there is associated with it the deleterious effect of mental stress and overexcitement, dissipation and alcoholism, and heredity; (5) in a certain relatively small number of cases mental stress, worry, or overwork may be the sole ascertainable cause; (6) traumatism may also be the cause in a still smaller percentage of cases, but in many of them it acts as a developing or ripening agent of an

incipient paresis in a syphilitic subject. A. W. Hurd (Med. News, May 17, 1902).

PHTHISIS, THORACIC.

Summary of the morbid processes which in various combinations constitute the pathological phenomena of thoracic phthisis:—

(A) Lungs—Pulmonary Phthisis.—

1. Tubercle-formation, in the form of miliary tubercles, either limited to a small area or diffused or disseminated in one or both lungs. Or the tubercle may take the form of an infiltration.

2. Pneumonic changes, usually of a broncho-pneumonic or catarrhal type, are usually associated with the tuberculous process, and often extend far beyond areas which are the seat of demonstrable tubercle. It may be lobar, but is more frequently lobular.

3. Congestion and œdema in the vicinity of the tuberculous or pneumonic changes, due to retention of air in the air-vessels or to pulmonary collapse.

4. Sclerosed or obsolescent tubercles; fibroid nodules, thickening, or scars; or fibrotic capsules.

5. Caseation of the consolidated portions of the lung, involving their disintegration and ultimate destruction.

6. Cavitation, the result of the destructive process just indicated.

7. Fibrosis or sclerosis; this is always present in chronic phthisis and offers a resistance or barrier to the advance and activity of the tubercle bacilli. It is usually associated with pleuritic adhesions from which the change has penetrated into the lung. Extensive fibrosis is a prominent feature in many cases of mechanical phthisis.

8. Morbid changes in the bronchi, with definite tuberculosis and ulceration in many cases, and resulting in bronchiectasis.

9. Vascular changes, such as occlusion by embolism or thrombosis, or the formation of aneurisms in the walls of a cavity.

10. Blood or its remains in the lung; infiltration of both lungs with blood may cause death from suffocation.

11. Compensatory pulmonary distension of one lung, where the other is rendered useless by disease.

12. Chronic bronchitis with emphysema, which has preceded the tuberculous infection. Here the phthisical lesions are at first of a subordinate character.

13. Infiltration of the lungs with various solid particles which have been inhaled, as in "carbonaceous phthisis." Abnormal pigmentation of the lungs is quite common, but is, in itself, of little practical significance.

(B) Main Air-tubes.—The definite morbid conditions of the trachea and main bronchi to be noted are:—

1. Infiltration of the tissues, or the formation of distinct tubercle.

2. Tuberculous ulceration with consequent suppuration.

3. Cicatrization of ulcers or chronic thickening of the walls.

4. Perforation of an ulcer, with emphysema.

5. Deeper and more extensive destructive changes, involving the perichondrium and cartilages.

(C) Pleura and Pleural Cavity.—1. Definite formation of tubercle.

2. Dry pleurisy.

3. Pleural effusion, usually of a sero-fibrinous nature. It may be the first evidence of definite tuberculosis.

4. Suppurative and ulcerative pleurisy; empyema.

5. Pleural adhesions; these are constantly present in cases of chronic phthisis, and may be of much conse-

quence. While a source of embarrassment to the lung, pleural adhesion is also a protection against perforation and consequent pneumothorax.

6. Pneumothorax and its consequences. Fluid may be present along with the air; pus (pyopneumothorax) or serous (hydropneumothorax).

7. Combined conditions.

(D) Pericardium—Heart-vessels.—1. Cardiac embarrassment due to "the exposed, elevated, and externally adherent part."

2. Definite tuberculous changes in the pericardium.

3. Heart: (a) valvular disease, (b) cardiac atrophy, (c) cardiac hypertrophy due to pulmonary obstruction, (d) hypertrophy due to other causes (nephritis, etc.), and (e) congenital heart disease.

4. Degenerative changes in the aorta and its main branches. Obstruction of veins is exceptional.

(E) Mediastinal Structures.—Changes in the absorbent glands, in the œsophagus, and the occurrence of mediastinal emphysema.

(F) Thoracic Walls and Diaphragm.

—1. Wasting of superficial muscles and tissues.

2. Abnormal rigidity of the framework of the chest.

3. Changes in the shape and capacity of the chest produced by intrathoracic morbid processes.

4. Preceding deformities of the chest.

5. Tuberculous lesions of the walls of the chest themselves.

6. Subcutaneous emphysema.

7. Morbid changes affecting the diaphragm.

Pathological Effects of Phthisical and Associated Changes.—1. Interference with the action and functions of the respiratory organs or heart.

2. Absolute destruction of pulmonary tissue.
3. Formation of morbid products, of a wasting nature.
4. Formation and absorption of toxins.
5. Physical embarrassments.
6. Occurrence of accidental lesions (hæmorrhage, etc.). F. T. Roberts (Lancet, April 5, 1902).

PLEURISY STATISTICS.

Of 1000 cases of phthisis at all ages, 88 were preceded and 68 accompanied by pleurisy. Of the 88 in which pleurisy was a forerunner, there was a more or less clear family history of phthisis in 40. In 8 more than ten years elapsed between the pleurisy and the diagnosis of phthisis; in 10 the phthisis immediately followed the pleurisy; the average time between the two was 4.3 years. Thus, 8.8 per cent. of all the cases of phthisis were preceded by pleurisy: a percentage sufficiently high to justify Penzoldt's dictum that pleurisy should always raise the suspicion of tuberculosis. In the classification of cases of pleurisy clinical data were alone available, since specific organisms were found in but a fraction of the total number. Of 210 cases of pleurisy, the effusion was probably a transudation rather than exudation in 10. Of the remainder, 148 were accompanied by effusion, 52 were "dry." The right side was affected in 101, the left in 92, both sides in 7. Males were affected more often than females (140 to 60). The cases were most numerous in the second and third decades of life; this corresponded to and was consequent on the age-incidence of phthisis. More than half of the 200 cases were "idiopathic": that had no discoverable cause. Of the remainder, 21 were certainly and 22

probably tuberculous (together equal 36.5 per cent.); 7 were post-rheumatic; 8, post-pneumonic; 2, post-influenzal; 12, traumatic; 5, complicated by morbus cordis; 5, secondary to neoplasms, and 12 complicated infective diseases. Grober (Sonder-Abdruck aus Centralb. f. inn. Med., No. 10, 1902).

PLEURISY WITH EFFUSION, PROGNOSIS OF.

At the recent meeting of the Association of American Physicians R. C. Cabot gave the after-history of 300 cases of pleurisy with effusion, the diagnosis being confirmed in each case by tapping. It was possible to trace but 152 of the cases, and upon these the report was based. In none of these cases was there evidence of tuberculosis of other organs at the time of tapping. Of the 152 cases, 80 were found to be in good health at the end of from 5 to 21 years; 37 were well at the end of periods under 5 years; 23 had contracted tuberculosis; 14 had died of other causes. The conclusions based on the report were that 80 per cent. of uncomplicated cases of pleurisy with effusion are well at the end of 5 years and that more than half of them are well at the end of 10 years or more. Only 15 per cent. developed demonstrable tuberculosis, and in many of these only after long periods of time after the pleurisy, as high as 16 and 14 years in some instances, only 3 per cent. showing that disease after 2 years. The type of tuberculosis was a mild one. A study of the clinical records showed that only one-fourth of the cases well at the end of 5 years or over had any family or past history of tuberculosis. The family history is considered to be of great value in determining prognosis; in fact, of more value than the physical signs at the time of the pleurisy. The

fact that no attempt was made to discover what percentage of the cases of effusion was due to tuberculosis means that the prognosis is good whatever be the cause.

In discussing this paper Osler said that most members of the profession had held the idea that serous effusion was a very serious condition. This paper put it in a much more favorable light.

Harris said that the statistics in England were much more unfavorable than these, the effect of pleurisy being regarded very seriously. There it is the rule of insurance companies not to accept cases of pleurisy until after a lapse of 5 years, tuberculosis being feared.

Jacobi recalled the fact that most people of advanced age showed signs of previous pleurisy, which proved that prognosis was not so unfavorable in that disease. (*American Medicine*, May 17, 1902.)

PNEUMONIA.

Pneumonia is an acute, self-limited, systemic infection, whereof the concomitants, though various, are chiefly pulmonary; it is endemic, occasionally pandemic, in many countries, and it occurs everywhere sporadically. Regarding the lung-tissue, the affection seems more in the nature of an exudation than of an inflammation; the frequency of the detection of the diplococcus in living blood in pneumonia suggests that by improved technics it will be found, like the plasmodium, in malaria invariably. Infection of the heart-muscles, with resulting degeneration, has more to do with heart-failure than mechanical obstruction. The exact significance of pathological leucocytosis requires further elucidation. Pre-existing fertility, as to the condition, determines

the degree of the infection rather than the number of microbes, which are in quality unchangeable. Although neglect of personal hygiene and of sanitation predisposes to pneumonia, unqualified good health, on the other hand, is a protection therefrom. S. S. Burt (*American Medicine*, April 26, 1902).

There is a great tendency to interfere unduly. It is of great importance not to fatigue or exhaust the patient by making careful daily, or twice a day, physical examinations of the chest. It is unnecessary, because one can generally tell quite certainly that a patient is suffering from an acute attack of croupous pneumonia without any examination of the chest at all. There is the rigor at the outset; the decubitus; the flushed cheeks; the herpetic eruption about the lips; the high fever; the tenacious, rusty expectoration; the great perversion in the pulse-respiration ratio,—a very important point; and on examination of the urine we will generally find that it is very deficient in chlorides, and often, if there is high fever, contains a little albumin. McCall Anderson (*Glasgow Medical Journal*, Feb., 1902).

The most rational mode of treatment consists in the administration of internal antiseptic agents, which, upon being brought in contact with the bacilli through the medium of the blood, may destroy, or at least embarrass, their growth, and check the influence of their poisons. Very good results obtained with salol given in the first stages of pneumonia. Carbolic acid and salicylic acid have a direct specific action when brought in contact with the bacillus. Ten grains of salol every two hours in adults, widening the intervals as the symptoms subside, is good practice. H. R. Tuthill (*Medical Record*, May 17, 1902).

PROSTATE, ABSCESS OF.

Abscess of the prostate is often neglected until serious complications and sequelæ develop. The principal reason for this neglect is that the anatomy of this region is not known with as much detail as it should be considering its importance, and the student of the pathological anatomy of these parts has rather rare opportunities for its cultivation. With regard to suppuration of the prostate, text-books of genito-urinary diseases usually contain very little about the affection, and treat it in a conventional manner, evidently not from the personal experience of the writer, but rather as a digest of preceding text-book material.

The usual source of infectious material that causes abscess of the prostate is the urethra. The size and character of the abscess depend upon the amount of trauma and the virulence of the infectious material that gains an entrance. Not infrequently urethral injection given with a little more force than usual, or an ordinary posterior urethral injection, may cause it. Prostatic abscess occurs especially after acute or chronic urethritis when the affection is overtreated. Abscess of the prostate used to be less frequent than at present, because the treatment of urethritis was less zealous and more judicious. Deep injections or irrigation may easily prove the source of suppuration in the prostate. Overinstrumentation, especially if done with any force, may easily set up prostatic infection. It is not an infrequent complication of urethral stricture; often the infectious material finds its way from the urethra through the excretory ducts to the gland into the glandular substance, and there gives rise to an inflammatory condition. Sam-

uel Alexander (Medical News, May 31, 1902).

Prostatic suppuration is most frequently due to the gonococcus. This is prone to affect the follicles of the gland rather than the substance of the prostate. As the result of the lowered resistive vitality consequent upon chronic gonorrhœa of the posterior urethra, secondary infection of the prostate is liable to take place. The microbes most frequently concerned are staphylococci, streptococci, and the bacillus coli communis. Recently an anaerobic bacillus has been described as occurring in very acute prostatic conditions; this form of prostatic abscess, however, is specific, and is apt to be followed by gangrene and the production of very foetid pus. Pseudo-abscess of the prostate, due to infection of the follicles of the gland from the urethra, is apt to be multiple. This condition does not, as a rule, give many symptoms, nor does it require operative interference. True prostatic abscess should be opened at the earliest possible moment in order to avoid complications, and Dr. Alexander's suggestion as to early diagnosis and treatment will undoubtedly prove to be of the greatest value in this matter. John Van der Poel (Medical News, May 31, 1902).

PROSTATIC HYPERTROPHY.

Palliative measures should not be persisted in when they fail, after reasonable duration, to produce and maintain an abatement of symptoms. A first infection of the bladder is not alone sufficient excuse for operation unless palliative measures fail to promptly subdue inflammatory conditions. Recurring infection of the bladder or ascending infection of the kidney is sufficient warrant for operative interference. There

is a growing tendency toward earlier operation than was formerly practiced. The greater number of cases of prostatic hypertrophy can be satisfactorily reached through a perineal incision. In the large majority of cases the requirements of any operation upon the prostate consist in the removal of the obstructing area and depressing the bladder opening into the prostate, so that the depth of the cavity may be properly drained. In many cases the obstructing area of the hypertrophied gland can be satisfactorily reached and effectually removed through a perineal opening by means of galvano-caustic incisions. Perineal galvano-prostatotomy is preferable to the Bottini operation, on account of its greater accuracy and lower mortality. C. H. Chetwood (Boston Medical and Surgical Journal, May 29, 1902).

The conditions favorable for the several operations in vogue are summed up as follows:—

Favorable for the suprapubic route: (1) general enlargement of the prostate, with extreme intravesical projection of the median or lateral lobes, diminishing their accessibility from the perineum; (2) marked pedunculation of the intravesical tumors, with absence of obstruction from other sources.

Favorable for the perineal route: (1) general hypertrophy, involving the lateral lobes, without extreme intravesical projection; (2) large or very thick bar-formation; (3) severe compression of the urethra between massive lateral lobes; (4) excessive development of the prostate in the direction of the rectum; (5) in most cases, where the patient is in good general condition, is not too aged, and there is not a special indication favoring one of the other procedures.

Favorable for the Bottini: (1) cases of extreme debility, or of extreme age, unable to stand one of the severer operations; (2) cases of bar or median sessile obstruction, of not too great dimensions; (3) Horwitz says it should be employed as a prophylactic against further obstructive tendency, at the beginning of catheter-life; (4) in complete collar-formation. Bransford Lewis (Boston Medical and Surgical Journal, May 29, 1902).

PUERPERAL SEPTICÆMIA.

Every case of puerperal sepsis is a wound-fever or a wound-infection, and should be treated as such. Each case of puerperal sepsis, however slight, should be carefully watched from the onset. We cannot tell into what it may develop. When a case of uterine sepsis progresses unfavorably after curetting, irrigation, and proper general treatment, as evidenced by the pulse, temperature, and the conditions of the uterus, we are justified in opening the abdomen and removing the uterus unless we find some conditions outside of the uterus to account for the persistence of the sepsis, or some condition in the uterus itself, as a single intramural abscess or a localized gangrene, which would admit of removal without ablation of the whole organ. When a uterine infection extends to a tube or ovary, setting up a violent grade of salpingitis or ovarian abscess, the abdomen should be opened without delay and the affected tube or ovary removed. When a uterine infection sets up a septic peritonitis, the abdomen should be opened and the uterus ablated, the peritoneal cavity flushed with saline solution, and free drainage employed through the vaginal opening. To operate for these conditions when the patient is evidently

moribund is unjustifiable and can only discredit the profession. H. N. Vineberg (*Medical News*, April 5, 1902).

SALINE SOLUTION, INTRAVENOUS INFUSION OF.

During experiments in which the blood-pressure had been lowered by a reasonable hæmorrhage alone, saline infusion promptly restored the lost pressure. If the pressure had been lowered by the exhaustion of the vasomotor system by an injury of the cerebro-spinal or the sympathetic nervous system, the infusion would restore the pressure in proportion to the vasomotor exhaustion. If this mechanism has gone into resolution, infusion is without curative effect. The peripheral resistance determines the height of the blood-pressure, no matter how swift the stream or how great the volume of blood. If the peripheral resistance is lost, no amount of infusion can do more than temporarily and partially restore the blood-pressure, and death is inevitable. If the shock is much increased by regional accumulation of blood, as in operations on the splanchnic area, infusion may be effective because the peripheral resistance is still present. If hæmorrhage complicates shock and the vasomotor mechanism is still intact, infusion is effectual. George Crile (*Medical News*, May 3, 1902).

SPINAL COCAINIZATION.

The injection of sterilized water into the arachnoid sac accomplishes the same anæsthesia, but is apt to cause the same accident as the subarachnoid injection of cocaine in the treatment of sciatica. For subarachnoid use, aqueous solutions of cocaine should not be diluted with water; after the injection patients

must be kept in bed for from two to three days. M. Guinard (*Journal des Praticiens*, March 22, 1902).

SURGICAL SHOCK FROM A CLINICAL STANDPOINT.

Shock is not due to a paresis of the circulation, especially of the heart and arteries, but to a profound disturbance of the entire vasomotor and sympathetic systems. This disturbing influence may reach the vasomotor center through various channels, as, for instance, by direct irritation of the sympathetic nerves in abdominal operations; by crushing injury to the skeletal nerves, as in railroad injuries; and through the medium of the brain, as in sudden fright. Or two or more of these factors may unite as a causative influence, as in railroad injury, where the influence of sudden and great fright is added to the crushing of the large nerve-trunks. The condition induced is essentially an excessive vasoconstriction. As measures of relief the use of nitrite of amyl, strychnine (which, in very large doses, paralyzes the vasomotor centers and so induces vasorelaxation), and saline solution thrown into the veins is advocated. The latter should be given at a temperature of 115° or 118° F. Thus administered, the heat of the solution is brought directly to the irritated ganglia, and vascular spasm is relieved. Eugene Boise (*New York Medical Journal*, April 12, 1902).

SUSCEPTIBILITY TO DISEASE.

One of the impossibilities of medicine as a so-called exact science is that the patient is not always responsive to morbid influences in accordance with any set rules. Thus, the two sides of the equation are never balanced in any

given case in exactly the same way. All sorts of controlling influences are at work in modifying the generally accepted conditions of cause and effect. There is no such thing as mathematical conclusions in estimating the chances of a positive prognosis in any given case, or in predicating the special action of any particular class of remedies. While we may be well informed as to the laws of disease, the patient himself is the main factor to be taken into account. In the attempt to form an opinion, we are governed by the study of the sick one's proclivities, and of his various and complex receptivities of morbid influences. It is the proper appreciation of these qualities which constitute the judicious and careful practitioner as compared with the careless and off-hand prescriber.

We cannot go far in this method of reasoning without considering the important rôle played by the inherent vital resistance of individuals, not only as regards susceptibility to contagion or infection, but in reference to an equal combative tendency against complications in any given malady. Not only do certain individuals differ from others in hereditary tendencies and in the complex responsiveness to their varied environments, but the same person shows various degrees of resistance at correspondingly different periods. Thus, in early life he has one variety of diseases, and later on others—each in its own time and following certain laws which are now very well understood. It is the stroke of the clock on the mark of the hour. The old-fashioned physician, who was not only acquainted with the general constitution of a family, but also with the physical peculiarities of its individual members, always worked to advantage in foretelling the probable

outcome of the sickness in question. The probabilities were always in one direction or the other. From many points of view it is a great pity that this kind of knowledge, upon which a prognosis could be most reasonably based, is fast dying out with the growth of specialism and with the fashionable tendencies of patients to be constantly changing medical advisers.

Some of the most interesting facts bearing on hereditary influences have been gathered by tracing the family diseases through different generations in isolated communities. The life-insurance companies study the question also on a correspondingly broader and more comprehensive scale, reducing probabilities to almost mathematical accuracies. Thus, the life-limit fixes the rate of premium for all ages of persons who are apparently in good health at the time the contract of risk is taken. It is necessary to go still further than this if we expect to apply general principles to special physical types. Nordau goes to extremes in generalizations respecting the signs of degeneration. Still, he started rightly, and the facts he obtained in support of his theory are of value as suggestive of a more reasonable plan of study. We are, at least, convinced as to the relation which true physical degeneracy must bear to disease proclivities.

When we adapt general principles to individual cases we must assume, so far as susceptibility to disease is concerned, that the depression of vital force is the first step to that end. In other words, the system must be prepared for the attack by the lowering of physical tone. Susceptibility in such a sense means temporary weakness. At least this admission appears to explain why, when the various causes of disease are con-

stantly operating, the individual escapes attack until the soil is duly prepared for the seed. We see this fact constantly exemplified in the study of the infectious properties of all the common diseases. Pneumonia, typhoid, and tuberculosis serve as apt illustrations of the point in question. In every case the weaker persons are the ready prey for the lurking and ever-ready bacilli. One surgeon, who is overworked and below par, pricks his finger, and the infection rapidly multiplies itself; another one eliminates the poison as readily as a duck sheds rain. If we could more accurately determine these relative conditions, how much disease and consequent death might be prevented! In severe and prolonged operations, for instance, we could estimate the chances for the patient with much greater certainty than at present seems possible. We know well enough that one patient survives where another dies. The same kind of operation saves lives on one hand and kills on the other. The point at issue in this cursory discussion on the general subject of susceptibility is to know which is which. It is not impossible to hope that by a more thorough and careful study of this important question we may at no distant period be able to widen observation in each individual case, either by still newer methods of examining the blood, the urine, or other of the secretions, or by the proper interpretations of peculiarities in physical construction, the relative chest-capacity, the size and strength of the vital organs, the hirsute development, the skin-circulation, the pulse-rhythm, the conformity of the limbs, or the metabolic capacity. The important fact is to be discovered somewhere along these lines, and, when once it is made plain, we shall have the question of

prognosis in any given instance more definitely settled than is possible at present. Editorial (*Medical Record*, April 19, 1902).

THORACOCENTESIS, ALBUMINOUS EXPECTORATION FOLLOWING.

Albuminous expectoration is a very rare complication of thoracocentesis. It is usually serious, and sometimes fatal; it consists in the expectoration of a viscid, albuminous fluid closely resembling the fluid of serous effusion. The condition is best explained on the basis of an intense congestion and œdema of the lungs (congestion by recoil). The principal cause seems to be either too rapid or too great a withdrawal of fluid. Serious cardiac disease and morbid conditions of the opposite lung, hindering expansion, are predisposing causes. Under all circumstances, but particularly when these complications exist, aspiration should be performed slowly. If the effusion is large, the amount withdrawn at any one time should be moderate. In some cases it may be wise to perform several tapings, drawing off a small quantity each time. The treatment consists in counter-irritation, venesection, and artificial respiration, together with the use of morphine if the cough is severe. David Riesman (*American Journal of the Medical Sciences*, April, 1902).

TIC DOULOUREUX.

All the improvements in technique for a practical consideration of the surgery of the Gasserian ganglion may be grouped under two headings: (1) those which render the ganglion easier of approach, and (2) those which suggest means, not of controlling, but of preventing hæmorrhage. The pterygoid route of Rose and the temporo-sphe-

noidal route of Doyen have practically been abandoned in favor of the temporal route first advocated independently by Hartley and Krause. In order to lessen the risk of injuring the middle meningeal vessel and to facilitate the exposure of the ganglion Cushing suggested a modification of the Hartley-Krause operation, which he has called the infra-arterial route. The base of the flap corresponds to the level of the zygoma, and the trephining opening is sufficiently low to escape the sulcus arteriosus in the anterior inferior angle of the parietal bone, which lodges the middle meningeal vessel, and to give the maximum exposure with the minimum of cerebral compression. Sapejko (*Revue de Chirurgie*, September, 1901) goes so far as to recommend the removal of the great wing of the sphenoid up to and including the foramina rotundum and ovale.

No matter what the method of approach, each of these operations has for its object the removal or avulsion of the Gasserian ganglion and the adjacent portions of its first, second, and third divisions. The operation for the relief of tic douloureux described below depends for its success not upon the removal of all or part of the ganglion, but solely upon the division of its sensory root. It was suggested by Dr. William G. Spiller, who is of the opinion that the burden of evidence is still with those who would prove that regeneration of fibers with restoration of function does follow division of these sensory roots.

The following are the steps of the operation:—

1. Reflection of a horseshoe-shaped flap of skin and subcutaneous tissue. The flap corresponds in width to the length of the zygoma; its base is on a

level with the lower border of the zygoma, its convexity reaching a point six centimeters above.

2. Division of the zygomatic processes of the malar and temporal bones. After reflection of the superficial flap of skin and subcutaneous tissue an incision is made in the periosteum over the middle of zygoma throughout its length and the periosteum elevated sufficiently to allow of the introduction of the bone-cutting forceps and the division of the zygomatic processes of the malar and temporal bone.

3. Reflection of a horseshoe-shaped flap, composed of temporal fascia, muscle, zygoma, and pericranium, corresponding in shape to the superficial one, but of somewhat smaller dimensions. This flap is reflected sufficiently to expose to view the temporal fossa; during the operation it will be subjected to considerable traumatism consequent to the constant traction and pressure, and will be swollen and tender for a short time. Owing to the contractile character of the tissue of which it is composed, the flap will shrink at least one-third before the operation is completed; so that some little traction will have to be made in order to approximate the edges upon closure of the wound.

4. Removal with the trephine of a button of bone at a point corresponding to the middle of area exposed and enlargement of the opening with the rongeur forceps until its diameter measures three to four centimeters. The usual precaution must be taken in trephining here, as in any portion of the calvarium where the bone is of such variable thickness, in order to avoid injuring the dura; and additional precautions are necessary in this region owing to the fact that the middle meningeal artery lies immediately beneath the

button of bone to be removed. With the rongeur forceps the trephine opening is enlarged about equally in all directions and should extend downward to the level of the crista infratemporalis.

5. Separation of the dura and exposure of the ganglion and its sensory root. The adherent dura is separated by blunt dissection (the handle of a scapel enveloped in a single layer of gauze will meet all indications) inward and forward until the foramen ovale or rotundum comes into view, either of which serves as a guide to the site of the ganglion. This is the most tedious stage of the operation and one which taxes the patience of the operator to the utmost. Hæmorrhage now constitutes the great bugbear. Protracted and persistent oozing follows the separation of the dura from every point at which it is adherent to the skull; the older the patient, the firmer the adhesion and the freer the hæmorrhage. Hæmostasis can be effected only by pressure and heat; small pledgets of gauze saturated with a hot, saline solution are cautiously applied to the bleeding-point and allowed to remain for periods of two to five minutes. The dura is most adherent to the skull at the margins of the foramina; so that the most troublesome bleeding is not experienced until one has arrived almost at the site of the ganglion. Second only to hæmorrhage as a troublesome feature of this stage of the operation is the presence of large, bony eminences on the floor of the middle fossa. As pointed out by Amyx, these eminences are more commonly met with in heads not having a great transverse diameter between the ears, but whose external bony prominences are well marked, rather than in those skulls with a large transverse width; these prominences are situated usually external to the

foramina ovale and rotundum, and if very large will have to be chiseled off in order to expose the foramina to view and remove the ganglion. In some cases the ganglion itself lies beneath a bony roof, as though it were a continuation of the petrous portion of the temporal bone. While this is an anomaly in men, it is not so in the dog. Almost without exception in the series of dog's skulls which were examined while carrying on the experimental work, the ganglion was covered by a thin shell of bone, which had to be removed in order to bring to view the ganglion and its sensory root. With hæmorrhage well enough under control to enable one to recognize the anatomical landmarks, the operator makes an incision into the dura and dura propria between the foramen ovale and spinosum and with a blunt dissector separates the dural envelope from the upper surface of the ganglion as far back as may be necessary to expose to view the sensory root.

6. Up to this point the method of procedure has not differed essentially from those operations which have in view the extirpation of the ganglion. From now on the courses diverge: in the one the operator proceeds to liberate and extract the ganglion and its branches; in the other, to liberate and divide the sensory root. The division of the root is not a difficult performance. When fully exposed it is picked up on a blunt hook (see illustration), which is passed around the nerve from without inward. The nerve is divided either by making traction with the hook or cutting directly upon the hook with knife or scissors. It would be a better plan, however, after elevation of the nerve upon the hook, to grasp it with a pair of forceps, hæmostatic or dissecting, and remove a small section with

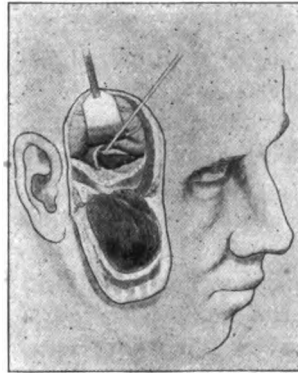
knife or scissors. This slight modification will add nothing to the dangers and little to the difficulties of the operation, and will serve a twofold purpose: on the one hand, furnishing a specimen for a pathological examination, and, on the other, leaving a defect in the continuity of the nerve which would render regeneration a possibility still more remote.

In connection with this step of the operation there is one point which will naturally come up for discussion. Can the sensory root be isolated from the motor root so that the integrity of the latter may be preserved? This question may be answered in the affirmative if certain reservations be made. That it is possible upon the living subject to separate the motor from the sensory root was proven by the author's case. He had practically concluded the operation and was about to close the wound; in order to assure himself that none of the fibers of the sensory root had been left undivided, he repeated the last step of the operation, and in so doing he picked up the motor root, which up to this time had remained intact, and unintentionally divided it. It is *possible*, therefore, to divide the sensory without the motor root; whether we can attain sufficient dexterity to avoid the accident which happened in his case is a matter to be settled by future repeated observations.

7. Closure of the wound. The section of zygoma is returned to its normal situation and secured in place by one periosteal suture at either end. While there is no danger of displacement as a result of muscular action, the fragment may be dislodged during the application, or the changing, or the pressure of the dressing, and for this reason the introduction of a suture at either end is recommended. A narrow

strip of gauze enveloped, as it passes by the scalp, in a cuff of rubber tissue is introduced for drainage. If the bleeding is free at the conclusion of the operation it must be controlled by pressure with strips of gauze. The rubber tissue, by preventing the edges of the scalp-wound adhering one to the other, will insure perfect drainage. The wound in the temporal muscle and fascia is closed with buried interrupted catgut sutures, and the superficial wound with interrupted silk-worm-gut sutures.

A special protective dressing is ap-



Division of the Sensory Root of the Trigeminal for Tic Douloureux. (*Spiller and Frazier.*)

(University of Pennsylvania Medical Bulletin, December, 1901.)

plied to the eye in order to prevent corneal ulceration.

The advantages of this operation are the following:—

1. It should be attended with a lower mortality.
2. It obviates a number of difficulties.
3. Its execution is, comparatively speaking, simple.
4. It is practically complete when the posterior aspect of the ganglion and its sensory root have been exposed: that is, it is practically complete before the difficulties most serious and troublesome common to other operations have even been encountered.

5. The integrity of the cavernous sinus is never in danger.

6. The risk of injuring the sixth nerve is avoided. C. H. Frazier (University of Pennsylvania Medical Bulletin, Dec., 1901).

TYPHOID AND MALARIAL REMITTENT FEVERS, BLOOD-DIAGNOSIS BETWEEN.

1. The percentage of the different forms of leucocytes counted in the stained blood-film is of great diagnostic value in diagnosing typhoid and malarial remittent fevers, and is easily ascertained.

2. An increase of the lymphocytes to 40 per cent. or over, without any increase in the large uninuclears, points to typhoid as against malarial fever.

3. An increase in the large uninuclears to about 12 per cent. and upward, especially during the remissions of the temperature, strongly indicates malaria as against typhoid fever. This change is of great value when parasites are absent from the blood.

4. The presence of myelocytes in any number, such as from 1 to 5 per cent., points to malaria as against typhoid fever.

5. A high degree of anæmia, such as a reduction of the red corpuscles below three million per cubic millimeter, is much more frequently met with in malaria than in typhoid fever.

6. A very great reduction in the total leucocyte-count, such as to below two thousand per cubic millimeter, is much more frequently met with in malarial than in typhoid fever, while the proportion of white to red corpuscles in malaria is not infrequently less than one to two thousand, which is rare in typhoid fever.

7. Leucocytosis can be detected by

the presence of a great excess of white corpuscles, upward of 80 per cent. of which are multinuclears, in a stained blood-film, and is often of service in excluding malaria in intermittent fever due to liver-abscess or other local inflammation. L. Rogers (British Medical Journal, April 5, 1902).

TYPHOID FEVER, PERFORATION IN.

A few brief points as to management of cases in which operation is indicated. A patient cannot be moved to a hospital for operation. If in a private house, this must be done at the bedside. Every effort must be made to save time in operating. There must be no handling of distended bowel outside the abdomen. Once escaped, this cannot usually be returned without an amount of trauma which is most fatal. Inflamed visceral peritoneum splits and peels off with the greatest ease. A short incision of the bowel made under constant irrigation is by far the less of two evils, and may be quickly and safely repaired. An intestinal leakage has already occurred; so that the additional danger of soiling the peritoneum may be disregarded. The external incision should be located as for appendicitis. The point of departure for search should be the ileo-cæcal junction, as the majority of perforations occur in this neighborhood. If possible, the lateral abdominal wall should be made to form one side of the area packed and drained. Infusion of salt solution is useful as a stimulant. It will tide a weak patient over dangerous periods of depression and probably also assist in the elimination of typhoid products by the kidneys. The external wound should not be closed. Other things being equal, the patient most likely to recover will be

the one to whom the least is done. Even establishing drainage along with a faecal fistula would be far better than prolonged manipulation, which is sure to kill. G. Erety Shoemaker (Philadelphia Medical Journal, May 31, 1902).

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

Intratracheal Injections in the Treatment of Bronchitis. By W. S. Anderson, Detroit, Mich. 1902.—The Indications for the Radical Mastoid Operation, with a Description of its Technique. By W. Scott Renner, Buffalo, N. Y. 1902.—Myxoma of Larynx. By J. S. Gibb, Philadelphia, 1901.—Oedematous Laryngitis, with Report of Cases. By Joseph S. Gibb, Philadelphia. 1901.—A Case of Herpes Zoster Ophthalmicus. By W. S. Durand Everett, Wash. 1902.—A Case of Isolated, Unilateral, Latent Empyema of the Sphenoidal Sinus, with Delirium and Mental Symptoms. Operation. Recovery. By Jonathan Wright, Brooklyn, N. Y. 1902.—Foreign Bodies, in the Oesophagus, with Report of Cases. By Albert Vander Veer, Albany, N. Y. 1899.—Résumé of the Subject of Actinomycosis, with Report of a Case of Actinomycosis Abdominalis. By A. Vander Veer and A. W. Elting, Albany, N. Y. 1902.—Monograph Read Before the West Chicago Medical Society on a New Method of Delivery by the Obstetrical Tractor. By E. D. St. Cyr, Chicago, Ill. 1901.—Insufficiency of Divergence as an Etiological Factor in Concomitant Convergent Strabismus: Its Importance, Determination, and Treatment. By H. W. Wootton, New York City. 1902.—Artificial Respiration by Direct Intralaryngeal Intubation with a Modified O'Dwyer Tube and a New Graduated Air-pump, in its Applications to Medical and Surgical Practice. By Rudolph Matas, New Orleans, La. 1902.—Traumatic Arterio-venous Aneurisms of the Subclavian Vessels. By Rudolph Matas, New Orleans, La. 1902.—Local and Regional Anæsthesia with Cocaine and Other Analgesic Drugs, Including the Subarachnoid Method as Applied in General Surgical Practice. By Rudolph Matas, New Orleans, La. 1900.—Massive Infiltration Anæsthesia with Weak Analgesic Solutions (Modified Schleich Method). By Rudolph Matas, New Orleans, La. 1901.—The Relative Prevalence and Fatality of Fractures in the White and Colored Races. A Statistical Contribution Based upon the Annual Reports of the Charity Hospital of New Orleans for the Decennium 1886-96. With Abstract of Remarks on Some Controverted Questions in the Treatment of Fractures. By Rudolph Matas, New Orleans, La. 1901.—The Treatment of Abdominal Aortic Aneurism by Wiring and Electrolysis. A Critical Study of the Method Based upon the Latest Clinical Data. By Rudolph Matas, New Orleans, La. 1900.—Non-surgical Treatment of the Commonest Form of Deafness. By George F. Cott, Buffalo, N. Y. 1901.—Sinus-thrombosis Depending on Middle-Ear Disease, with Report of a Case Following Acute Sore Throat. By George F. Cott, Buffalo, N. Y. 1902.—Inaugural Address as President of the Medico-legal Society. By Clark Bell, Esq., LL.D., New York City. 1902.—Superheated Compressed Air in the Therapeutics of Chronic Catarrhal Otitis Media. By George W. Hopkins, Cleveland, O. 1902.—First Report of the New York State Hospital for the Care of Crippled and Deformed Children, for the Ten Months Ending September 30, 1901.—The Progressive Principle in Rational Infant-feeding. By H. L. Cott, Newark, N. J. 1902.—A Study of Burns, with a Plea for their More Rational Treatment. By Frederic Griffith, New York. 1901.—Malignant Disease of the Nose and Accessory Sinuses. By F. S. Gibb, Philadelphia. 1902.—Case of Congenital Porencephalus, in which the Porencephalic Area Corresponded to the Area of Distribution of the Left Middle Cerebral Artery. By D. A. Shirres. Studies from the Royal Victoria Hospital, Montreal. 1902.—Sulla etiologia dei mixomi delle fosse nasali. Nota clinica ed istologica del Dott. Vittorio Grazzi. 1902.—The Home Fruit-garden: Preparation and Care. By L. C. Corbett, United States Department of Agriculture, Washington, D. C. 1902.—Our Foreign Trade in Agricultural Products, 1892-1901. By Frank H. Hitchcock, United States Department of Agriculture, Washington, D. C. 1902.—Mexico as a Market for Pure-Bred Beef-cattle from the United States. By D. E. Salmon, United States Department of Agriculture, Washington, D. C. 1902.—Bulletin of Organization and Progress of the Yellow-Fever Institute and Bulletins from Section A, History and Statistics; Section C, Transmission; and Section D, Quarantine Management and Treatment. March, 1902.—Clearing New Land. By Franklin Williams, Jr., United States Department of Agriculture, Washington, D. C. 1902.—Experiment Station Work, XX. United States Department of Agriculture, Washington, D. C. 1902.

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Cyclopædia of Current literature.

ALBUMINURIA, FUNCTIONAL.

During the last few years much has been written on the subject of albuminuria without demonstrable disease of the kidneys. Most cases of this sort are properly "cyclical" albuminuria; the albumin is absent upon rising in the morning, appears after breakfast, and is,

usually not present late in the day. It is not influenced by diet, and may even be absent after active exercise. Post-ural albuminuria is not inaptly applied to this condition. The majority of the cases in persons who are supposed to be in perfect health and in whom no organic disease can be found are discov-

ered accidentally. In many instances life-insurance examinations are instrumental in disclosing the condition. The discussions as to the relation which such albuminuria bears to life-expectancy are of little value, as they are based largely upon the theories, and the conclusions are drawn by men who are apt to give the favor of a doubt to the insurance-company. The conditions which underlie the passage of the albumin into the urine are unknown, and, until these are understood, no rational prognosis is possible. As noted by Mendel and Hooker, in the interesting report of a typical case, all attempts to refer the disappearance of the albumin when the subject is in a horizontal position to attendant circulatory changes in the kidneys is no more than an interesting speculation. If urine contains not only small amounts of albumin, but also renal tube-casts, especially other than a few hyaline ones, the condition is one of nephritis, and not of "cyclical" albuminuria. Because albuminuria is intermittent, it does not follow that it belongs among the variety under discussion. In nephritis the amount of albumin in the urine is also apt to be less in the morning before assuming the upright position, and where there is little albumin it may even be entirely absent at that time of day. The only way to learn what ultimately becomes of these cases is by intelligent observation of single examples through a long period of the life of the subjects and by post-mortem examinations of the kidneys. If medical men who accidentally find themselves the subjects of functional albuminuria would make regular and careful observations of their own cases during the continuance of the albuminuria and publish the results, it would help much to place us in a position of

knowing what is to be expected. Physicians who are so situated as to be able to keep cases under observation for years or during life would contribute something of value to medicine by studying and reporting them. When the results of such collective investigation is obtained, an intelligent prognosis can be made and a suitable therapy instituted. A sufficient number of cases have been reported to show that functional albuminuria is not infrequent; hence what is most needed is information as to what actually becomes of them. It would be wise to watch the condition of the kidneys with more than usual care whenever acute disease or pregnancy occurs. Editorial (Journal of the American Medical Association, April 12, 1902).

ALBUMINURIA, PHYSIOLOGICAL.

It is very generally conceded by the best clinical authorities that a true physiological albuminuria may occur. Its subjects are always young and present absolutely no other signs that would call attention to their kidneys. The albumin in the urine is usually found in the course of an examination for life-insurance or some health-certificate. At times the albumin is continually present for long periods; more frequently it is intermittent. Postural albuminuria due to the maintenance of a position that favors kidney congestion or the albuminuria that occurs as the result of emotional strain belongs under this head. It is often seen in young persons during the excitement of preparation for examination. It may persist for weeks under these circumstances, and then disappear without leaving a trace of damage. Diagnosis may only be made with any degree of assurance if the patient is young and if the

amount of albumin is very small: not more than $\frac{1}{10}$ of 1 per cent. There must not be accompanying hypertrophy of the heart, and there must not be accentuation of the second sound. Genito-urinary conditions that might prove a source of extrarenal albuminuria must be carefully excluded. There should not be serious organic disease of any kind, and not more than a few casts, and those hyaline in character. The retina should be carefully examined in order to be sure that no traces of retinal nephritic symptoms are present. A. O. J. Kelly (Proceedings of the American Medical Association; Medical News, June 21, 1902).

ALCOHOLIC AND MORPHINE HABITS, LOTT'S TREATMENT WITH HYOSCINE.

Lott's treatment of alcoholic and morphine habits with hyoscine tried in six cases: The patients can take massive doses for days at a time, as much as $\frac{1}{4}$ grain each day hypodermically, with no evil effects on any vital function. They suffer very slightly, if at all, from the immediate withdrawal of the morphine. The desire for the drug is largely, if not entirely, dissipated after a few days. H. A. Hare (Medical News, June 7, 1902).

AMCEBÆ AS ALBUMINOUS PRODUCTS.

Amcæbæ are undoubtedly the result of imperfect digestion of albuminous material. Under such disease conditions the undigested substances agglomerate in the blood-stream and give the amcæboid appearances. The white blood-corpuscles are undoubtedly the products of similar processes. The blood that enters the spleen has not many such agglomerated masses, but the net-work of splenic tissue undoubtedly causes them to form, for they are found in great

abundance in the blood issuing from the organ. These appearances have led to the formation of many hypotheses, but they are evidently due to faults of digestion, and can be very clearly traced to these. Elmer Lee (Proceedings of the American Medical Association; Medical News, June 14, 1902).

AMCEBÆ, BIOLOGY OF, AND WHITE BLOOD-CELLS.

Amcæbæ and white blood-cells are living cells, and not mere agglomerations of albuminous material. Anyone who has seen the active amcæboid movements of these cells could never doubt of their intense and independent vitality. Their capacity for the ingestion of other cells and foreign material is also a proof of such vitality. To see them actively engaged in phagocytosis is to dismiss all question of the possibility of their being broken-down albuminous products. Thomas Fletcher (Proceedings of the American Medical Association; Medical News, June 14, 1902).

BACILLUS COLI COMMUNIS IN INFECTIONS.

The bacillus coli communis is widely distributed in the normal body and in Nature. It is usually present as a saprophyte in all parts of the alimentary canal, and may also be present as such in the lower portion of the common bile-duct; on the skin, especially in the neighborhood of the mouth and anus; and in the anterior portion of the urethra and vagina. The bacillus coli communis may, under what seem to be normal conditions, be carried during life from the intestine to healthy viscera. This invasion takes place from the intestine into the abdominal viscera, more especially the liver and kidneys, through the portal circulation. It is possible that similar invasions may take place

from other parts, especially the mouth, pharynx, etc. Further, it is probable that, under similar conditions to which these invasions occur, bacteria may sometimes reach the systemic circulation. Agonal and post-mortem invasion of the tissues of the body is common, occurring with great frequency under the most diverse circumstances with or without apparent lesion of the mucous membrane of the intestine. The virulence of the bacillus coli communis is influenced by at least two factors: (1) changes in the physiological activities of the intestine; (2) growth in new host environments. The rôle of this organism as a primary inciting factor in infection is infrequent. It is as a secondary invader of tissue previously occupied by micro-organisms, or of tissue already injured from other causes, that it claims our chief attention. The bacillus may induce inflammatory lesions, mainly suppurative, in the body-tissues generally; the infection may originate in the intestine. Its rôle in acute inflammatory lesions of the intestine—more particularly of the appendix, peritoneum, and urinary passages—has been generally overestimated. While it may be the primary inciting factor, other organisms usually take this part, the bacillus coli communis more commonly acting as an accessory factor. It is a factor of importance in the incitement of cholelithiasis. A. J. Lartigau (Journal of the American Medical Association, April 12, 1902).

BRIGHT'S DISEASE, CIRCULATION IN.

Bright's disease is not primarily a kidney disease, but is really a circulatory disturbance. The brain and kidneys, the end-organs of the circulation, suffer most. It may well happen that

death comes on from brain-lesion at a time when the kidneys are yet in reasonably good condition. Details of a case in which, by careful dieting and avoidance of extremes of temperature or other hurtful factors, the kidneys were spared, yet the fatal issue came through the brain. The brain is a very sensitive organ and may show signs early in the case. The kidneys are insensitive, and may not react until late in the progress of the arterial changes.

The first symptoms of Bright's disease may be those of increased arterial tension. There may be, because of this, increased frequency of urination, or occasional nose-bleed or persistent headache. A very early symptom may be functional gastric disturbance from increased blood-pressure. These gastric symptoms must not be confounded with the nausea and vomiting of later stages of nephritis. The pre-nephritic condition of Bright's disease may be detected in the irregularities of the circulation. These may give rise to clumsiness in the use of limbs or to actual paresis of one or more members. There may be temporary aphasia, and this symptom may recur several times, passing off completely in the interval. The earliest symptoms of Bright's disease, if carefully looked for, will nearly always be found in the brain. L. Faugères Bishop (Proceedings of the American Medical Association; Medical News, June 21, 1902).

BRONCHIECTASIS.

The data for forming a correct diagnosis are:—

The sputum, especially as regards (a) foetor, (b) daily amount, (c) physical characters, and (d) method of expectoration. *Foetor of breath* on coughing. *Physical signs of chest*, including the

signs of cavities, especially in relation to (a) their size, distribution, occurrence, and symmetry; (b) their generally non-progressive character and daily variations. The temperature-range in bronchiectasis varies within very wide limits. It may remain normal for many weeks at a time, even when the sputum is offensive. On the other hand, it may conform to one of the remittent or intermittent types, with a range of as much as four or five degrees.

Treatment.—There are three main objects to be kept in view: 1. The evacuation of the purulent and offensive secretions. 2. The disinfection of the tubes and the prevention of the fœtor. 3. The obliteration of the cavities.

To attain these objects various methods have been advocated: 1. Inhalations of volatilized antiseptics: (a) creosote-vapor baths; (b) inhalations of creosote, oil of peppermint, eucalyptus, etc. 2. Subcutaneous and intravenous injections of antiseptic fluids. 3. Internal medication. 4. Surgical treatment (incision and drainage). Sometimes one, sometimes another, of these various methods of treatment seems to succeed in a particular case, and fails hopelessly to give relief in another.

From a consideration of the facts, the conclusion is inevitable that in the adult bronchiectasis, when once fairly established, is, except in very rare instances, incurable by any method of treatment at present available. In some of the more acute cases in young persons cure may occasionally result. In chronic cases the distress of the condition can often be greatly relieved, and, if the exciting cause of the disease is not progressive, life can frequently be greatly prolonged. T. D. Acland (Practitioner, April, 1902).

CÆSAREAN SECTION.

List of six cases in which the indications for the operation were as follows:—

Slightly contracted pelvis and head impacted in the brim. At the patient's request further conception was rendered impossible by hysterectomy. Mother and child both well.

Marked scoliosis of the vertebræ in the lower dorsal and upper lumbar regions in a dwarf. When labor came on the head lay across the pelvic brim, with a hand and arm alongside it. In spite of strong pains the head would not engage. Hysterectomy was performed to prevent further conception. Mother and child both well. In each of these cases there had been a previous confinement, long and difficult, with delivery by forceps.

Six of the children had perished at birth from dystocia in previous confinements. In the present labor forceps had been used unavailingly, in spite of deep anæsthesia, and on admission to the maternity the patient was in a condition of profound shock. The cervix was found dilated and a large head wedged into the brim of the pelvis; the child was dead. Craniotomy was performed, but, as the fœtus could not be extracted, a Porro operation was done without delay. The patient rallied slowly and recovered.

Oblique contraction of the pelvis in a primipara, the result of double hip-joint disease and rachitis in childhood. When labor came on hysterectomy was performed, after the child had been removed, so as to prevent further conception. Mother and child did well.

General dropsy, accentuation of second sound of the heart, and increase of arterial tension. Sight dim, due to serous swelling of the retina; albumin

in urine in abundance, in a primipara, between seven and eight months pregnant, who in childhood had had scarlet fever, and repeatedly uric acid in large quantities in her urine. Labor was induced by dilating the cervix under chloroform and passing bougies. A few hours later eclampsia supervened. Condition very grave. Cæsarean section rapidly performed. She rallied from the operation, but in a few hours coma came on and ended fatally. The child died.

Melancholia in a primipara in the later months of pregnancy. Slight contraction of the brim of the pelvis. Breech presentation, but, owing to feeble pains, the breech did not descend. The child was a large one, and there was lack of expulsive effort on the part of the mother. Cæsarean section; child alive. The mental condition of the mother gradually improved after the operation. In this case the operation was done more to save the life of the child than of the mother. E. P. Davis (*American Journal of Obstetrics*, Feb., 1902).

A case of Cæsarean section followed by hysterectomy for impacted cervical fibroid and prolapse of gangrenous umbilical cord in a septic woman. The patient recovered. The salient points in this case were the following: 1. The woman had spontaneously given birth to three living children, although the tumor must have been of some years' growth. 2. The recovery of the mother after cord and uterine contents had undergone decomposition, with resulting maternal sepsis. 3. The mental derangement, which showed itself about the ninth day, and was evidently the direct result of the operation. 4. The escape of the intestines for several hours after the spontaneous reopening of the

wound, without fatally influencing the progress of the case. 5. The desirability in sepsis preceding delivery (in cases requiring Cæsarean section) of immediately combined abdominal hysterectomy with Cæsarean section. The risk of additional shock is fully met by removing the infected uterus. Abram Brothers (*Medical Record*, June 7, 1902).

CANCER.

It is claimed by the men who believe that cancer is due to parasites: 1. That a proliferation of the epithelial cells analogous to cancer can be produced by certain protozoa (nodules due to *coccidium oviforme*). 2. That certain skin-lesions characterized by epithelial-cell proliferation are due to the action of a so-called protozoan, *molluscum contagiosum*. 3. That blastomycetes constantly are present in human cancers, and are the cause of the lesion. 4. That by experimental inoculations of animals with blastomycetes true epithelial or cancerous nodules can be produced. 5. Finally, that the well-known endocellular bodies seen in the protoplasm of cancer-cells have a definite morphology, are parasites, and cause cancer. It was the object of investigators whose work is here reported to study each of these questions.

Coccidium Infection of the Rabbit's Liver.—Tyzzer describes the lesions produced by *coccidium oviforme* in the liver of rabbits. He finds that the lesions consist of small white or yellow nodules which always are connected with the bile-ducts and may occur as cyst-like or dense and firm structures. Histologically the nodules are composed of cysts into which project papillæ covered with epithelium, or there may be very little lining epithelium to the cysts, with a dense fibrous capsule and remote

cirrhosis of the liver. The infection takes place through the stomach by the ingestion of a capsulated form, the oöcyst, in which develop eight actively moving sporozoites. The capsule is dissolved by the digestive juices, and the sporozoites are set free and invade the biliary epithelium. In the epithelial cell the sporozoite develops into a schizont, which divides and breaks up into falciform bodies, the merozoites, which, in turn, are set free and invade the biliary epithelium. This is the process of auto-infection.

There is also a process of sexual reproduction. Some of the organisms become microgametocytes, from which small male elements, microgametes, are developed, which fertilize the female form. Other forms may develop into macrogametes, the adult female form, which, becoming fertilized, develops a resistant envelope, the sporocyst; this adult organism set free passes out through the intestinal tract, and may infect other animals if ingested.

The histological changes are as follows: After invasion of the epithelium by the protozoan the epithelial cell degenerates and is destroyed. This produces a defect in the epithelial lining of the duct, and inflammatory exudation appears. Following the destruction of the epithelium there comes an increase in the underlying connective tissue which pushes into the bile-duct to form papillæ, and a proliferation of epithelium occurs in order to cover in the defect. Repair is brought about by walling off the lesion by connective tissue. No metastases occur. In only one stage does the parasite in the least resemble the so-called "parasite" of cancer. The lesions produced by coccidium oviforme are essentially those of chronic inflammation.

Molluscum Contagiosum.—White gives a most complete and admirable review of the literature. The histological changes are described with accurate detail. The nodule is due to an hyperplasia of the rete-cells, which push down and out and produce a globular tumor. The deeper layers consist of quasinormal spinous cells with well-marked nucleoli, usually single or double, which stain deeply. Among these are cells with no nucleus and with fibrillary protoplasm. Nearer the surface are cells with distorted nuclei surrounded by a clear halo, or the cells may lose their nuclei altogether. In still more superficial layers the cells increase in size, the nucleus is pushed to one side, and the cytoplasm becomes honey-combed. Mitotic figures are common. In still higher layers the nuclei disappear and the cell looks like a multilocular cyst. Still higher, probably in the stratum granulosum, the cells become smaller, the trabeculæ disappear, and the cells become homogeneous with keratin-like walls. There are no bodies which resemble the gregarines nor any doubly-contoured bodies. Often there is well-marked inflammation about the nodule. The staining reaction shows that the end-result of the cell-changes is the production of keratin: i.e., the entire process is a peculiar metamorphosis of the rete-cells into keratin.

The bacteriological work was done by Robey. He used ordinary bacteriological media and a special medium: a bouillon made of finely chopped human skin. Extensive cultural experiments showed the presence of no organism except the staphylococcus epidermidis albus of Welch. Inoculation of animals with this organism produced the usual staphylococcic inflammation; in

others it produced no results. There was no other cultivatable parasite.

Cultural Experiments of Malignant Tumors.—Richardson made an extensive series of cultural experiments with fresh cancerous material obtained from operations at the Massachusetts General Hospital. He used a great number of different media. The cultures were observed over periods of time varying from fifteen days to months. The result of his investigations confirms his report of previous work, and he concludes that it is impossible to cultivate from new growths anything which can be regarded as a specific infective growth.

Four Pathogenic Torulæ.—Weiss studied the morphology and cultural peculiarities of four blastomycetes (really torulæ), two of which have been isolated from cancer: one by Plimmer and one by Sanfelice. One came from fruit, and was said to produce cancer by experimental inoculation (Sanfelice's neoformans). One came from milk, and was pathogenic for rabbits (Klein). Weiss gives a systematic classification of the fungi, and says that the torulæ are micro-organisms similar to the saccharomycetes, except that they do not produce spores or develop mold-like vegetations (mycelia). As a rule, they have no power to produce fermentation, although a few can. Morphologically the torula-cells are round masses of protoplasm, each contained in an envelope. It is doubtful if they have a nucleus. The protoplasm consists of a fine net-work of vacuoles and oil-drops. Sometimes in the vacuoles is a nucleus with Brownian movement. The membrane consists of two layers, which sometimes can produce a gelatinous substance outside of the capsule, the nature of which is not evident. Weiss

used special technical methods, as taught by the Copenhagen school. He found that the four organisms he examined did not ferment sugar, form spores, or produce mycelia. He found after a certain length of a life of cultivation that each organism had constant morphological and cultural peculiarities which allow them to be differentiated. He considers all four organisms studied to be torulæ, and gives an extensive table of their characteristics.

Cell-inclusions in Cancer and in Non-cancerous Tissue.—Greenough examined various tissues to see if bodies similar to the well-known cancer-bodies exist in tissues other than cancer. He took as his standard of cell-inclusion the form described by Plimmer in the Practitioner of April, 1899. He examined a large number of different tissues with entirely negative results. He examined also thirty non-malignant tumors of the breast, including acute and subacute mastitis, adenoma, adenofibroma, and myxofibroma. In 11 cases of chronic mastitis which were non-malignant—that is, breasts which had round-celled infiltration with an increase of connective tissue, atrophy of the gland-tubules, and cyst-formation—there was no penetration of the epithelium beneath the basement membrane, and no marked increase of mitotic figures; in each of these cases he found typical inclusions like those seen in cancer-cells. The nucleus of the cell in which these inclusions occurred was always near the basement membrane, while the inclusions were on the side nearest the lumen. Exactly similar conditions were found in 8 adenofibromata of the breast, in 1 myxofibroma, in 3 out of 4 adenomata, and in 8 cancers. In the cancers the inclusions, as a rule, were larger than in the other tumors of the breast.

Greenough believes that, since the inclusions are seen entirely in alveolar glandular carcinomata and in no epitheliomata, they have to do with the process of secretion, and that they do not arise from nuclear degeneration.

From a review of the literature it is evident that in secretion in glandular epithelium there is associated a definite differentiation of the cell-protoplasm, with which a protoplasmic body, the centrosome, is involved. Moreover, the great variation in size of the inclusions in cancer suggests secretion and accumulation, which may attain great size if the gland-duct is occluded, as happens in cancers where the epithelial cells are massed together and no lumen is left. The inclusions occur more frequently in slowly than in rapidly growing cancers. The cells have probably lost their power of secretion with greatly increased capacity for growth. Inclusions in mitosing cells are very uncommon. He concludes (1) that cell-inclusions of a constant type occur in practically all cases of cancer of the mammary gland; (2) that they also occur in non-cancerous disease of the breast, but (3) not in epitheliomata or sarcomata; (4) that apparently the staining reaction and situation of these bodies justify the hypothesis that they are the results of secretory activity; (5) there is no reason for believing that they are of parasitic origin.

The Relation of Blastomycetes (Torulæ) to Cancer.—Nichols reviews the literature at some length. The idea that cancer is due to a blastomycetes practically dates from a case reported by Busse, clinically considered to be a "soft sarcoma" or "chronic inflammation." Blastomycetes were present in the primary tumor and in internal metastases. They could be cultivated

in pure culture, and in animals produced local and secondary granulomata.

Sanfelice considered that the well-known cancer-bodies were identical morphologically with blastomycetes. He cultivated in fruit-juices a blastomycetes which he obtained "from the air," the "*saccharomyces neoformans*"; inoculated many animals; and produced local "tumors" with large lymph-nodes and internal metastases. In but three cases did he claim to produce cancer, and in these cases there are no epithelial metastases, nor could he obtain his organism from the nodules.

Plimmer obtained a similar organism which he considered to be the cause of cancer, but by inoculation produced only "endotheliomata," not "cancer." Other men claimed that morphologically the cancer-bodies were analogous to blastomycetes, but the evidence of this identity was very weak.

Many men inoculated animals with blastomycetes from animal or human tumors. They produced local and secondary lesions of inflammatory or granulation tissue, but never cancer, except Leopold, whose experiments were puerile. In human beings lesions—clinically sarcomata, but histologically granulomata—due to the action of blastomycetes have been observed. A few cases of dermatitis, due to blastomycetes, have also been seen in human beings, but the lesion is essentially an intra-epithelial inflammation, and is not analogous to cancer. In horses a disease clinically like glanders, due to the action of blastomycetes, has been observed.

Many men working with blastomycetes obtained in various ways have found many inert and some pathogenic; the pathogenic varieties produced only abscesses or nodules of granulation tis-

sue. Some men working with Sanfelice's neoformans also produced granulation tissue in animals, but never cancer.

Moreover, yeasts are seldom found in cancers, and when present are found in ulcerating nodules and represent a secondary infection. The cancer-bodies are not identical morphologically with blastomycetes; they are found in other lesions than cancer; they are not constantly present in cancers; when they are present, they are not so situated, and do not occur in such numbers that they can be considered as the cause of the disease. The mere presence of blastomycetes in cancer, even if constant, is no proof that they are the cause of the disease.

Nichols inoculated thirty animals: eighteen with Sanfelice's neoformans, twelve with Plimmer's organism. There was always a local reaction, fever and abscess, or nodules of peculiar granulation tissue composed of connective tissue, many endothelioid cells, and relatively few blood-vessels. The blastomycetes were free or in phagocytic cells, and were always surrounded by a gelatinous capsule. Usually there was little acute inflammatory exudate, but there always were some plasma, lymphoid, and eosinophilic cells. In glandular organs the reaction was confined entirely to the interglandular connective tissue. There was no glandular proliferation. In the epidermis the epithelial cells were destroyed by contact with the blastomycetes. There never was proliferation. The lymph-nodes always were enlarged, and were myxomatous or necrotic. Blastomycetes were free in the sinuses or were contained in the endothelial cells. Ultimately they destroyed the lymphoid tissue, which was replaced by a prolif-

eration of connective tissue and endothelioid cells. In the lungs the blastomycetes were in the alveolar wall, and caused a proliferation of connective tissue, which encroached upon and finally obliterated the alveoli. Often there were pneumonia and atelectasis. The liver practically always was free. In the spleen the follicles were primarily affected and were replaced by connective tissue and endothelioid cells. In the kidney the lesions were always in the cortex, beginning usually in the glomeruli; were composed of connective tissue and endothelioid cells, and destroyed adjacent tubules by pressure. The morphology of the blastomycetes was constant, and not the same as that of cancer-bodies.

Nichols's conclusions are the following: 1. Certain blastomycetes are pathogenic. 2. They produce in animals spontaneously infected acute inflammations, abscesses, or nodules of granulation tissue. 3. In human beings spontaneously infected they produce acute inflammation or proliferation of endothelium and connective tissue. The occasional proliferation of the epidermis is secondary to the chronic inflammation of the corium, and is not analogous to cancer. 4. Blastomycosis in human tissue is rare. 5. The lesions produced in animals experimentally are inflammation or nodules of granulation tissue. Sanfelice's "successful" cases are coincidents, and not results. 6. The toxic power of blastomycetes is small. 7. Blastomycetes primarily extend along lymphatic clefts. 8. Rarely there may be a blood dissemination and general infection. 9. Secondary nodules are the same as the primary: *i.e.*, composed of granulation tissue. 10. The morphology of the cancer-body is not identical with the blastomycetes. 11. Blastomy-

cetes are not constantly present in human cancers. 12. When they do occur they are not present in such numbers and in such a relation to the lesions as to justify the belief that they are the cause.

All of which leads to the ultimate conclusion that blastomycetes have nothing to do with the production of cancer.

General Conclusions.—As a result of the work just reported it is concluded that: 1. The lesion produced by *Coccidium oviforme* is essentially a chronic inflammation not analogous to cancer. 2. The lesions in molluscum contagiosum show certain changes in the epidermis not due to the action of protozoa and not analogous to cancer. 3. The so-called "blastomycetes" of Sanfelice and Plimmer are torulæ. 4. The lesions produced by these torulæ are essentially nodules of peculiar granulation tissue, not cancerous or in any sense "tumors." 5. Blastomycetes are not constantly present in human cancers. 6. The cancer-bodies are not parasites or the cause of the lesions, but are probably atypical stages of the process of secretion by glandular epithelium. Report of the Men Working under the Cancer Commission of Harvard University for the Years 1901-1902 (*Journal of Medical Research*, April, 1902; *American Journal of the Medical Sciences*, June, 1902).

CARDIAC DISEASES, DIGITALIS AND ACONITE IN.

It is the duty of the physician to study the heart-muscle rather than to determine just which valve is affected in a case of cardiac disease. Digitalis is often given in too large doses and for too long a period of time. If the coronary arteries are closed or so nearly

so that they cannot give passage to the increased amount of blood that the use of digitalis will cause to go to them, the drug would better not be given. Aconite gives the same result in steadying the heart-beat, by its action on the vagi, that digitalis does. In many cases the combined use of digitalis and aconite gives the best results in the treatment of cardiac disease. H. A. Hare (*Proceedings of the American Medical Association; Philadelphia Medical Journal*, June 21, 1902).

COUGH.

Although cough constitutes a symptom common to many affections of the respiratory tract, it may result from the excitation of other organs; but the pneumogastric nerve is always found in the reflex arc. The writer describes cough as a reflex act originating in a sensory nervous terminal, or "tussiferous zone," arriving at a "tussigenous zone," and being reflected thence to a motor terminal, or "spasmodic zone," thus provoking a forced expiration, with closure of the glottis. The arc may be incomplete and the impulse originate from its central point. The best medication for a cough is often an emetic. Sometimes it is necessary to calm the exaggerated excitability directly. With this object recourse is had to drugs which affect (*a*) the sensory fibers, as antispasmodics, or (*b*) the motor fibers or the bulbar center, as sedatives, or to drugs of mixed action.

Opiates belong to the first of these categories, and, among others, the following formulæ are given:—

R Morphine hydrochloride, $1\frac{1}{2}$ grains.

Cherry-laurel water, 150 minims.

M. Twenty drops contain about $\frac{15}{100}$ grain.

Ten drops may be repeated six times in the twenty-four hours.

R Morphine hydrochloride,
Cocaine hydrochloride, of each,
1 1/2 grains.
Neutral atropine sulphate, 1/13 grain.
Cherry-laurel water, 150 minims.

M. Twenty drops contain about 15/100 grain each of morphine and cocaine hydrochlorides, and about 1/133 grain of atropine sulphate. From 5 to 10 drops, repeated so as not to exceed 40 drops in the twenty-four hours, in a little sugar-water, or on sugar.

In cases of cardiac debility the following is recommended:—

R Morphine hydrochloride, 1 1/2 grains.
Neutral sparteine sulphate, 7 1/2 grains.
Distilled water, 150 minims.

M. Fifteen drops may be injected subcutaneously for a dose. Rummo (*Riforma Medica*, Dec. 18, 1901).

DIABETES.

The blood contains a substance that can destroy sugar. This sugar-destroying power is resident in the leucocytes. In the first 30 minutes after drawing blood almost no sugar is destroyed. After 1/2 hour and up to the expiration of 1 1/2 hours sugar-destruction is active, and then ceases. This period of sugar-destruction is coincident with the disintegration of the leucocytes, which liberate a ferment-like body that destroys the sugar. Removal of the pancreas reduces the power of the blood to destroy sugar. Extracts of pancreas with the addition of a small quantity of hæmoglobin possess the power of de-

stroying sugar, although extract of pancreas alone does not possess that power. Trypsin, hæmoglobin, and sugar are universally distributed in the body in the necessary combination to destroy sugar. After ligating the pancreatic duct the acini of the pancreas atrophy, but the islands of Langerhans increase in size. Injections of the extract of such a pancreas increase the glycolytic action of the blood. Suprarenal extract injected into the blood of an animal increase the excretion of sugar and produces glycosuria. A. C. Croftan (*Proceedings of the American Medical Association; Philadelphia Medical Journal*, June 21, 1902).

DIABETES, POTATO DIET IN.

In the treatment of diabetes mellitus the evil effects of potatoes have always been emphasized. The writer believes the exclusion of the vegetable from the dietary is productive of nothing but harm, and not only so, but that patients may actually do better with such an aliment than when deprived of it. In twenty-four hours the patients treated by the author have consumed at least a kilogramme of potatoes, but seldom 1 1/2 kilogrammes, and occasionally 2 kilogrammes. Yet in every case the symptoms of the disease ameliorated considerably. The author thinks that the good results obtained may be due to the fact that potatoes contain a large quantity of potash combined with vegetable acids. He offers no suggestion as to the manner in which the potato acts, but is content to record the fact of its efficaciousness. The potato contains also a certain small quantity of manganese, and it is possible, the author thinks, that this metal, too, may have some good influence in nutrition. Mossé (*Bulletin Général de Thérapeutique*, Feb. 23, 1902).

DIARRHŒA, SUMMER.

Methods that have been found most successful in dispensary and hospital service, as well as in private practice, for the treatment of the severe gastro-enteritis of the summer reviewed. Most diarrhœas occur under two years of age. At this time the child's diet consists mainly of milk. As soon as the diarrhœa begins, all milk must be stopped. This is true no matter what its source,—mothers' milk, guaranteed cows' milk, dairy-milk, or grocery-milk,—all alike must be stopped completely and at once. It does no good to pasteurize or to boil or to modify the milk in any manner. It must simply be stopped. If the child be nursing there must be no food for twenty-four hours. Then nursing may be tried; but, if it show any tendency to cause the diarrhœa to persist, even breast-milk must be stopped and substitutes employed. If the child be on a mixed diet consisting mainly of milk, all the cows' milk must be stopped at once. It may be necessary to stop for days, even for weeks. The writer has seen a case in which only after five months could the use of milk be resumed. The substitute foods should consist mainly of carbohydrates. A tablespoonful of barley-flour or of rice, cooked in a pint of water, should be given in quantities about equal to the amount of milk taken before; this for a child under one year of age. For older children more of the carbohydrates may be employed and the feeding mixture may be dextrinized. Such food is not pleasant, because of the sameness of its taste. To give a variety of savor, chicken-, mutton-, or beef-broth in small quantities may be added. Beef-juice may also be added at times, but sparingly and only with the idea of making the food tasty, not with the idea of adding to its nutritional qualities.

The free use of brandy and whisky, which is sometimes advised because children are in a weakened condition, is not advisable. They rather add to the lack of resistive vitality and do not increase the store of vital force, as is sometimes taught. The use of egg-albumin dissolved in water used to be a favorite recommendation. This compound is not, however, as suitable in cases of gastro-enteric disturbance as are carbohydrates. Bacteria can be cultivated on egg-water, while the fermentation set up by carbohydrates is rather unfavorable to the growth, especially of the pathogenic bacteria. The use of certain of the proteid spacers has been suggested. The three classes of foods that come under this head are gelatin, fats, and carbohydrates. The fats are distasteful, and hence cannot be used for any length of time. The end-products of gelatin when digested are very similar to those of milk, and hence they would probably prove as unsuitable for the disturbed gastro-intestinal tract. Carbohydrates are therefore the indicated food-products. The by-products of carbohydrate digestion are mainly excreted through the lungs. This saves the intestines considerable irritation. C. G. Kerley (*Medical News*, June 7, 1902).

DILATATION OF THE HEART IN CHILDREN.

Cardiac dilatation, to a moderate extent, is far from uncommon in early life; indeed, in childhood the heart may be said to dilate with especial ease. The dilatation may be found out apart from any valvular affection; it is due to blood-pressure in a flabby, ill-nourished, or degenerated heart, and may occur without there being any resistance to the passage of blood from the heart.

Acute infections—such as broncho-pneumonia, diphtheria, and acute rheumatism—are particularly liable to cause this. In any such case of acute disease where the dilatation is rapid, a recumbent position should be enforced, and on no pretense should the patient be allowed to lift even his head from the pillow. The diet should be regulated so that those foods that tend to ferment and fill the stomach with wind should be forbidden; baked apples, grapes, oranges, and acid fruits are to be avoided. The patient should be fed with milk, custards, strong soups, yolk of egg, and rusk. In the matter of drugs, if the case be a rheumatic one, and sodium salicylate being taken, it is well to combine with it 5 to 10 grains of iron ammonio-citrate. Strychnine is of great value, and iron perchloride with solution of strychnine, given in full doses well diluted with aerated water, is recommended. Eustace Smith (Practitioner; American Journal of the Medical Sciences, June, 1902).

DYSENTERY, AMŒBIC.

When the first case of amœbic dysentery was found in Johns Hopkins, very careful inquiries were made as to the patient's possible connection with things tropical. Now, however, that many cases have been seen there is no question that the disease may occur in those who have never been outside of Baltimore. The disease has been observed especially in children and others who have taken gutter-water or who have had their hands covered with material from the gutters when eating. It would seem then that the frequent amœbæ seen in such water have some connection with the pathogenic amœbæ. MacRae (Proceedings of the American Med-

ical Association; Medical News, June 14, 1902).

EPILEPSY, ALCOHOLIC.

This disease may be divided into three classes: (1) the convulsive and maniacal type, (2) dementia and confusional states, and (3) automatic trance and psychical cases. Hereditary tendencies and predispositions, together with condition of the patient's health, are recognized as factors in varying the type of the disease. Reference made to the development of the delusional states among epileptics, the common manifestations being fear of death or injury, which is usually but temporary. Cases reported illustrating each of the three forms of the disease, and as a sequence of the first mentioned, pneumoparesis; of the second, cerebral hæmorrhages and nephritis; while epileptic convulsions were more common in the third. Homicide and suicide are more frequent in the two former classes. Reference made to the increase in alcoholic epilepsy, which is considered to be due to the change in the character of the spirits used over those employed in former years, wood-alcohol being believed to be among the notable constituents in the newer mixed drinks. For the treatment of these cases total abstinence, nerve and brain rest, sharp elimination, restricted diet, and a radical change in business and surroundings are thought to be the most efficient methods. (T. D. Crothers.)

There is probably no distinct form of epilepsy that could be properly called "alcoholic epilepsy." The author is rather inclined to look upon alcohol as one of a class of a number of causative agents of this condition, and he also expressed the opinion that it was quite as likely that the epilepsy acts as a cause

of the patient becoming an inebriate. It was thought well to confine the classification of these conditions to as few headings as possible, as too large a variety of names for the same disease would be apt to lead to confusion. (J. H. Lloyd.)

A great many of these attacks are due to an acute congestion of the brain. Case of a man referred to who, during the recent warm spell, was seized with an attack of typical epilepsy. When seen by the author he was suffering from his fourth convulsion; venesection was promptly performed, and in a few days the patient was apparently well. (F. Savary Pearce.) (Proceedings of the American Medical Association; New York Medical Journal, June 14, 1902.)

GALL-STONES IN THE COMMON DUCT.

In one-third of the cases the symptoms were of ten or more years' duration. In less than one-fourth the symptoms had persisted for less than two years. Cholecystenterostomy is a make-shift at the best; the cystic duct may not be patent. Expression of the stone into the duodenum or bladder is not easy. No cases have been operated upon by the transduodenal route. Crushing of the stone leaves *débris*. In none of the above methods can it be determined whether or not the ducts are patulous. In six of the cases only one stone was found. For the relief of the late desperate cases a rapid cholecystotomy may be made. The method of choice consists in incising the duct, removing the stone, suturing the duct, and draining the gall-bladder. This procedure was carried out in twenty-one of the cases without a death. M. B. Tinker (Proceedings of the American

Medical Association; Philadelphia Medical Journal, June 21, 1902).

GAS-MAINS, LEAKAGE FROM.

Not less than eight million cubic feet of illuminating gas escape daily from the mains between the factories and the consumers' meters. The explosive and toxic properties of the gas dwelt upon, the latter being infinitely more dangerous than sewer emanations, and having lost its odorous properties in percolation, it penetrates through sewers and other ways into houses in such a manner as to render sickness inevitable. Dr. Bayles is known as a careful investigator, and while we trust that the picture of the extent of danger has been somewhat overdrawn, we must recognize the fact that the leakage constitutes an increasingly serious menace to public health, and urge thorough investigation with a view to its being dealt with as speedily as possible. Editorial (New York Medical Journal, June 7, 1902).

GASTRIC ULCER.

The subject of gastric ulcer is one of those most threshed over in medicine. Only one thing in etiology is agreed upon: that anæmic conditions and especially chlorosis form the basic predisposition to the affection. Gastric ulcer is much more frequent than has been thought. Five per cent. of all hospital cases suffer from the disease. In ordinary life gastric ulcer may not be so frequent, but there is no doubt that many apparently healthy persons or sufferers from obscure stomach symptoms are really carrying around latent gastric ulcers.

Gastric ulcers usually occur on the posterior wall near the greater curvature. Mayo Robson said not long ago that latent ulcers occurred especially on

the anterior wall and near the lesser curvature. Here they do not readily come in contact with the food. Latent ulcers are, however, quite common. Ulcers on the anterior surface near the lesser curvature are found very rarely at autopsy. Ulcers may be multiple. Even five or six may be exceptionally present. In Virchow's famous case, so often quoted, there were thirty-four. Most multiple ulcers are near the pylorus, some with contiguous edges, yet all having the characteristic punched-out appearance that distinguishes the peptic ulcer from all other stomach lesions.

Since the underlying condition in gastric ulcer is always poverty of blood, the treatment by means of iron should not be so condemned. Albuminate of iron has been used with good results. Case of a physician's wife who suffered from a painful condition of gastric ulcer, but never had hæmorrhage. The absence of hæmatemesis is not so rare. Boas saw 10 cases without this symptom. In 700 reported autopsies nearly 5 per cent. had ulcer, yet had never vomited blood. Personal patient improved at once when her anæmic condition was relieved and has had no relapse of symptoms. R. N. Willson (Proceedings of the American Medical Association; Medical News, June 14, 1902).

GOUT.

The estimation of the amount of uric acid in the urine before, during, and after an attack of gout is of no value unless the amount of that substance taken in with the food is estimated. The power to destroy uric acid ingested as food is lowered in gouty subjects. If a gouty subject is given a weighed quan-

tity of uric acid and then excretes more uric acid than he should from the amount taken in, the result may be of diagnostic importance. A. C. Croftan (Proceedings of the American Medical Association; Philadelphia Medical Journal, June 21, 1902).

At the Johns Hopkins Hospital in the past thirteen years 36 cases of gout have been treated: 0.24 per cent. of all medical cases. In London gout constitutes 0.37 per cent. of medical cases in St. Bartholomew's Hospital. In America heredity does not seem to be active in the etiology of the condition. On the other hand, alcohol is an active factor, particularly the fermented liquors. Lead poisoning is also an important condition in the etiology. Twenty-seven of the 36 patients reported were native Americans. All the patients were males, the majority of which were in the lower walks of life. Before the acute symptoms of the attack begin the excretion of uric acid is below normal; and late in the attack and in the intervals of the attack the output of uric acid is very low. The excretion of phosphoric acid is parallel to that of uric acid. Tophi were usually present, most frequently in the ears. There were definite evidences of arteriosclerosis in 23 cases; in 14 cases the specific gravity of the urine was low; albumin was present in 27 cases, and in 23 cases casts were found. These facts indicate that in a large proportion of the cases chronic interstitial nephritis was present. The occurrence of a uric-acid sediment in the urine does not indicate a gouty tendency, as is so commonly supposed. There was no such sediment in any of the 36 cases treated. Tophi are important in the diagnosis of gout; they should contain crystals of sodium urate. T. B. Fletcher (Proceedings of the

American Medical Association; Philadelphia Medical Journal, June 21, 1902).

GRAVES'S DISEASE AND GLYCOSURIA.

Experimental work and clinical observations on the association between exophthalmic goiter and true and transitory glycosuria. Into the stomachs of a series of patients suffering from distinct symptoms of Graves's disease 75 grammes of pure glucose were introduced. In only 1 of the cases did sugar appear in the urine. Then only $3\frac{1}{2}$ grammes were excreted: a transitory alimentary glycosuria probably not more in amount than would be found in many individuals. Of the other 7 patients experimented with not one showed any trace of glycosuria. This proportion, 1 in 8, is not more than would be found in the same number of patients suffering from chronic gastro-intestinal disturbance, for in many such patients alimentary glycosuria occurs frequently. There are other affections in which some form of glycosuria is much more frequent. For instance, in traumatic neuroses 20 per cent. of the patients suffer from it.

The writer has seen spontaneous glycosuria occur in a case of Graves's disease, but he is inclined to suspect that the presence of true diabetes with Graves's disease is a not impossible combination. He does not think, however, that the association of the two sets of symptoms is always accidental. The occurrence is too common to be merely a coincidence. Both affections may, perhaps, be considered neuroses due to some affection of the sympathetic or of the medulla, or perhaps of the thyroid gland. The rule is that Graves's dis-

ease exists for a long time before the development of the diabetic glycosuria. The combination of affections is practically always fatal. Periods of improvement occur, but they do not last long. At times Graves's disease is latent and gives so few symptoms that it must be looked for carefully. The thyroid causation of the diabetes as well as of Graves's disease seems improbable since Minkowsky has called attention to the fact that extirpation of the thyroid does not cause glycosuria. The cause might be some perverted action of the thyroid setting loose in the circulation some ferment that disturbs the sugar metabolism of the system.

Besides 2 cases observed by the author he has collected from the literature 22 other cases. Of the 24 patients only 2 were males. Graves's disease occurs much more frequently in women than in men, but not in any such proportion as this. Only about four times as many women suffer from the disease as men. The ages at which the affection occurs is from 18 to 59 years. The average age is about 39 years. Many of these cases occur during the menopause. Heinrich Stern (Proceedings of the American Medical Association; Medical News, June 21, 1902).

GUNSHOT WOUNDS.

Wounds of the thorax and abdomen divide themselves into penetrating and perforating. It must not be forgotten that a slight hæmoptysis may accompany the first type, from the mere impact of the blow. In all wounds, the probe is always contra-indicated. As to the prognosis of chest-wounds, statistics are very pessimistic, for unless the cases die within the first two or three hours, or are killed by meddlesome surgery,

they recover in a vast majority of cases. It is certain that here a masterly inactivity should characterize the operator. In dealing with lodged balls the author cannot do better than quote Abernethy, who, in speaking to his students, said that when Sir Ralph Abercrombie, who had received a bullet in the thigh, was placed under the surgeon's care, "they groped and they groped and they groped, and Sir Ralph died." It must be remembered that perforating wounds of the abdomen do not in many cases enter through the abdominal wall. Many have entered via the pelvis or the chest. In wounds above the umbilicus, probably, there are 3 per cent. which penetrate without perforating. The direction of the bullet has, importance, the antero-posterior being better than the oblique and these in turn being more favorable than the flank-to-flank type. Prognosis is based properly upon the statistics of many cases. These in general show that unoperated cases give 55 per cent. of mortality. In patients operated upon during the first four hours there is but 15 per cent.; in four to eight hours, 44 per cent.; in nine to twelve hours, 63 per cent.; after twelve hours, 70 per cent. The speaker emphasizes the importance of early diagnosis. Fæcal extravasation usually does not occur until after the fourth hour. This is due partly to the intestinal paresis resulting from the impact. The treatment is to cover the wound and not handle it too much. Infusion of very free type and equally generous drainage, particularly in civil practice, are both indicated. Injuries of the posterior cavity call for posterior drainage. Seeking the ball is contra-indicated; unless, indeed, it comes into view without effort, it should be let alone. (William L. Rodman.)

Many men are led astray by the old and erroneous teaching that the circuitous route in the abdomen is an utter impossibility. It may chance that a spent bullet striking the skull may be deflected by the bone, but no bullet can be turned aside by the soft viscera. Another point is that the shape of the abdomen is constantly changing. It is by no means difficult to place an athlete in such a position of strain that the anterior abdominal wall is in contact with the backbone. This, no doubt, explains the anomalous conditions where bullets have traversed the abdomen without injuring the viscera. (McGraw.)

Army surgeons are averse to early operations on the field. The fact that officers who had lain in the open for twenty-four hours with no care save a protective dressing, with absolutely no food or drink, have recovered, is instructive; it may very likely be that such absence of eating or drinking is a *desideratum*. (Grant.)

The importance of venesection in incipient pneumonia following bullet wounds should not be overlooked. Shock is entirely distinct from hæmorrhage. (Roberts.)

All-important treatment in the case of chest-wounds is absolute costal immobilization. The manner of accomplishing this is to put on a cast of either plaster of Paris or rubber plaster, extending from the umbilicus to and over the shoulders. (Ochsner.)

The prognosis depends very materially on whether the viscera is full or empty. If empty, the same forces which when full extrude food close the wound. The value of aseptic food has been altogether overestimated, for the alimentary canal contains about every known pus-producing organism. It is

the injury to the mucous membrane which kills the patient. (Laplace.)

Exploratory operation is practically without mortality, and in cases of doubt should always be done. It is either hæmorrhage or sepsis which kills. The emergency steps are as follow: First, control hæmorrhage; second, find and close the perforation; third, do the toilet of the peritoneum. In accomplishing the second, the direction of the bullet is of the utmost aid and importance; also of value is the question whether the perforations found are odd or even. The author always uses drainage. (Grant.)

Attention called to the importance of introducing a catheter into the bladder prior to operating. If blood is found at once, the bladder is injured. If it appears after a half-hour, the lesion exists in the upper part of the tract. (Gibbons.)

In controlling the hæmorrhage from chest-wounds, a most valuable method was that of cording three extremities for fifteen minutes, then passing on to the fourth, alternating in this way for several hours. It serves the same purpose as venesection, but preserves the blood. The author has heard from a great many of his old students, who have been operating in the Philippines and Cuba, and gave their reports to him in detail. They agreed that on the battlefield operations cannot be done, because of the absence of two essentials: fire and water. The value of morphine, pushed to its limit, which constitutes a so-called opium splint and which makes the patient comfortable, is probably a very important factor in saving lives. (Dawbarn.) (Proceedings of the American Medical Association; New York Medical Journal, June 14, 1902.)

HEART-WOUNDS, SUTURE OF.

The operations which have been recorded mark only the beginning; the heart is now destined to be submitted to many manipulations provided they may be done without stopping its action at once. It is a very unsafe thing to prophesy, but that more will be attempted can easily be inferred, for interference with the mitral orifice has already been suggested, and the immediate neighborhood of the heart has been invaded and a sacculated aneurism of the aorta has been tied off, the success of this well-executed manœuvre being prevented only by the failure of the atheromatous vessel-walls to heal. Possibly the next step may be delayed as long as the application to the heart of common surgical methods was delayed after Desault had taught us to open the pericardium. Perhaps it may come soon. It is not impossible that a new surgical technique may have to be created, but it is most probable that the next step will be based on the new application of the very old matters of the suture and drainage. H. M. Sherman (Medical News, June 14, 1902).

INSANITY, TRANSITORY.

Transitory mental troubles and aberrations may be connected with epilepsy and hysteria, menstruation, pregnancy, parturition, lactation, the menopause, alcoholic and other forms of intoxication, emotional and sexual excitement, somnambulism, prolonged insomnia, fatigue and inanition, including shipwreck, shock, and railway accidents, and exposure to extreme cold or heat. The occurrence of a *vesania transitoria*, though denied by Foville and Mendel, has been firmly established by the observations of Kraepelin, Krafft-Ebing, Clouston, and others, and cases are now

well known of mania transitoria and of raptus melancholicus. Patients who have long been the subject of distressing mental obsessions may break out into transitory aberration or to impulsive forms of insanity. Among the latter class must be included sexual impulses of a morbid character (Lombroso, Magnan). Among the impulsive and ephemeral forms are some cases of kleptomania, pyromania (especially at the epoch of puberty), dipsomania, dromomania, or impulses to wander about in an automatic state, with loss of sense of personal identity (especially prone to occur in epileptics), and impulses to homicide and suicide. In the vast majority of these cases, however, inquiry will reveal a pre-existent pathological basis, hereditary or acquired. Eugène Albert (*Thèse de Paris*; *British Medical Journal*, June 14, 1902).

LIPS, CARCINOMA OF THE.

The operation for carcinoma of the lips should not be considered as dangerous, and in the greater majority of cases union by first intention takes place in from nine to fifteen days. All the lymphatic glands of the submental and submaxillary region must be removed, or recurrence will occur. When necessary the inferior maxilla may be resected without danger. The lymphatic glands are affected soon after the onset of the disease (in two or three months), but this should not prevent a radical operation from being successful. In many cases the glands are involved when not palpable, and recurrence will follow if they are not removed. In 49 per cent. of the operated cases the end-results were good. In the cases which had recurrence the disease reappeared in the greater majority of cases within six months and nearly all the rest within

the first year; in only a very few cases was the recurrence after a lapse of one or two years. When recurrence took place it was generally found at the point where the disease first appeared or else in the submental region. The operative results were influenced by the duration of the disease and the degree of malignancy in each particular case. Cases which were not severe were operated on successfully as late as several years after the onset of the disease. Old age is not a contra-indication to operation; the best operative results were obtained in patients between sixty and seventy years of age. In cases of recurrence a second operation is only palliative and possibly may prolong life for several years. Carcinoma of the upper lip is nineteen times less frequent than that of the lower lip, and carcinoma of the lip is ten times more frequent in males than females. In women carcinoma of the upper lip is five times more frequent than it is in men. After a careful study of one hundred and seventy-eight cases it is impossible to state that carcinoma of the lips is more frequent in any occupation or station in life than in any other. The disease is most common in persons between the ages of sixty and seventy years. Twenty-five per cent. of all the cases are rapid in growth and markedly malignant, 15 per cent. are less severe, while the remaining 60 per cent. are a compromise between these two. Janowsky (*Archiv f. klin. Chir.*, Bd. lxxv, H. 2, 1902).

LYMPHATICS IN CHILDREN.

In the first years of life the lymphatic glands, like other lymphoid structures, have acquired their full anatomical development and are in their highest functional activity. They give origin to lymphocytes whose passage in great

numbers into the circulation determines a leucocytosis distinct from that of the adult. In the course of divers acute and chronic affections they react with an intensity far beyond that manifested by the glands of the adult, the intensity of the reaction often being disproportionate to that of the excitation, so much so that the glandular reaction often appears to constitute the entire disease. This intensity of glandular reaction constitutes one of the peculiar characteristics of disease in childhood. This peculiar physiological activity of the child's lymphatic system, which by its local functions arrests and destroys morbid germs, or at least attenuates their virulence by producing leucocytosis, serves to explain why certain infections like pneumonia and typhoid fever are more benign in general in the child than in the adult. Labbé and Bertin (*La Presse Médicale*; *American Journal of the Medical Sciences*, June, 1902).

MALARIAL NEPHRITIS.

The writer describes a case of malarial nephritis in which the kidney-changes were undoubtedly due to the malarial poison alone. Other organs were also affected by the malarial poison. This case fills up certain lacunæ in Ewing's case in which the malarial parasites were demonstrated in the kidney-tissues. The other organs were thrown away in that case, and so the characteristic changes of malaria confirmatory of the indications found in the kidneys were not observed. The writer considers that his case shows beyond all doubt that malaria is a prominent factor in the causation of kidney disease in malarial regions. William Britt Burns (*Proceedings of the American Medical Association*; *Medical News*, June 21, 1902).

MEASLES.

It is well-nigh a hopeless task to uproot some ideas and beliefs which have succeeded in gaining currency among the people. The people are convinced that measles is too trivial an affection to be dignified with the name disease, and they therefore consider all treatment superfluous. After the rash has disappeared the trouble is considered as over, and no further attention is usually paid to the child. But on studying the mortality tables issued by the Board of Health we encounter some very curious facts and figures. The report for the quarter ending March 31, 1902, issued by the New York Department of Health, is now before us. The influenza this year was of a mild character, there being fewer deaths, by 609, directly attributable to it than in the first quarter of 1901. From past experience we had a right to expect a corresponding decrease in the number of deaths from diseases of the respiratory tract. As a matter of fact, there were 344 more deaths from pneumonia and acute bronchitis in the first quarter of 1902 than in the corresponding quarter of 1901; but on looking further we see that this increase in deaths is confined *entirely* to children under five years of age, and these diseases were the direct sequelæ of an epidemic of measles. The number of deaths during January, February, and March caused by the measles directly was 349: almost as many as were caused by scarlet fever (356). This is a pretty respectable mortality for a harmless disease. Editorial (*Merck's Archives*, June, 1902).

MYOPIA, TREATMENT OF.

The prophylactic treatment of myopia consists in the following:—

1. Making the patient employ the *full*

correction of his myopia all the time and both for distance and near. This is of prime importance in all varieties of myopia—low, medium, and high—and, if applied early, may check the progress of the myopia altogether.

2. Proper attention to *illumination*, the size and legibility of the print, the quality of *paper* used in the books read, the relative height and disposition of the *seat and desk*, and the many other factors that have been brought out by the zealous investigators into the subject of school hygiene. These are important, but subsidiary, matters.

3. In low and medium myopia, *moderate restriction of near-work*, or rather its better distribution, so that it is done mainly by daylight and not for too long at any one time. Furthermore, momentary *rest of the eyes* at frequent intervals during the work. These rules to be the more strictly enforced the higher the myopia and the younger the patient.

4. In high myopia with evidence of progress much *more stringent restriction of near-work*. Open-air work to be encouraged and the adoption of confining and eye-taxing occupations forbidden.

5. In medium, and especially in high myopia, plenty of sleep and out-of-door *exercise*.

6. *Re-examination of the patient at frequent intervals* (which in the case of high myopia should be very frequent) to determine how much the myopia has increased. If it has increased the glasses should be increased also up to the full strength, and the hygienic regulations above detailed modified accordingly. Alexander Duane (New York Medical Journal, June 7, 1902).

NATURAL RESISTANCE.

The powers of natural resistance play a most important part in tuberculosis.

Too little consideration has been given to the human host in which the specific germs find lodgment. The powers of personal resistance are well demonstrated by the fact that only a limited number of those exposed to tuberculous infection fall prey to it. Tubercle bacilli may not only invade the respiratory and digestive organs, but may find their way by the blood into practically all parts of the body where, only under suitable conditions, they set up the tuberculous process. The personal factor of resistance is strongly emphasized by post-mortem experience which has shown that tuberculous lesions are found in the lungs and other parts of the body of individuals dying from diseases other than tuberculosis. It has been estimated that such non-active tuberculous lesions are found in from 30 to 90 per cent. of all dead individuals. The differences in the powers of natural resistance are also shown by the frequency with which many inherit and some acquire a tendency toward tuberculosis. The intemperate, or those who have opportunities for drinking, show a higher mortality from tuberculosis than do others. Measles and whooping cough are often complicated with broncho-pneumonia. They reduce the vital resistance powers and open the door to tuberculosis. Stephen Mackenzie (Lancet, May 31, 1902).

NEPHRITIS, CHRONIC.

The absorption of toxic substances from the intestinal tract plays the most important rôle in the etiology of chronic nephritis. The importance of this is very practically acknowledged by the range of dietetic treatment for the affection. The morning purge, colonic irrigation, and excitation of the intestinal functions generally lead to prompt amelioration of the nephritic symptoms. On the other hand, serious nephritic conditions are

ushered in by intestinal accidents. The first symptoms of uræmia or of kidney insufficiency are usually noted in the gastro-intestinal tract. The coated tongue, the nausea, the pain in the back, the oxaluria, etc., are all common symptoms of nephritis and intestinal disturbance. After the kidney-function is lowered the liver-cells degenerate because of the presence of toxic substance; the liver then fails to metabolize substances that come to it and adds its own quota of toxic material to the blood, which still further irritates the kidney. The vicious circle of influence thus formed continually deteriorates the general condition.

The inactive life of many city people is undoubtedly a cause for the development of toxic systemic products that irritate the kidneys. Almost inevitably such people overeat and this adds to the manufacture of toxins. In these patients the urine is often quite toxic when injected into animals. The basis of these metabolic disturbances is often an atonic intestinal catarrh. This condition, however, is perhaps itself a manifestation of uræmic conditions. Constipation is a very uncertain effect. Though long continued in some people, it fails to produce any serious systemic effect, while in others its existence for a comparatively short time produces many and even serious symptoms. Coprostasis provides in the material detained in the intestinal tract a very favorable culture-medium for microbes. These not only produce poisons themselves, which are absorbed with serious effects, but they also consume normal food-material in the intestines and leave only degeneration-products to be taken up for the body nutrition. These factors are especially active in the production of chronic nephritis, and the realization of this furnishes the best indications for treatment. A. R.

Elliott (Proceedings of the American Medical Association; Medical News, June 21, 1902).

PNEUMONIA.

Although the death-rate may not be greater than it was formerly, as the writer was inclined to think was the case before investigating the subject, the proportion of deaths from this cause to total deaths is increasing. The disease itself is much more prevalent, probably because of increased facilities for travel, the tendency of people to congregate, and other causes. This increase has been especially marked within the last twenty years. For individual prophylaxis the nasal, pharyngeal, and oral cavities should be kept as free as possible from accumulations of mucus; care should be taken not to become chilled when overtired, and the individual should, as far as possible, keep out of range of the extruded pneumococcus-laden secretions of infected individuals. There may be simple means by which pneumonia may be prevented, but the fundamental information upon which prophylactic rules may be formulated is not yet at hand. Public-health officers should seek assiduously for such knowledge, and as a preliminary step in this direction pneumonia should be placed on the list of notifiable diseases, the environment of pneumococcic patients carefully noted, and the results analyzed. (E. F. Wells.)

In cities the death-rate from pneumonia is increasing, while the general death-rate is decreasing. Pneumonia is more infectious than tuberculosis; therefore the necessity for prophylaxis against it in crowded centers is more urgent. (J. J. Walsh.) (Proceedings of the American Medical Association; American Medicine, June 21, 1902.)

PNEUMONIA AND ENDOCARDITIS.

Endocarditis is a rare complication of pneumonia, yet it occurs and must be looked for. Usually it takes the form of simple endocarditis, but at times it may be ulcerative in character. Case recently seen in which ulcerative endocarditis developed. The pneumonia ran its normal course. Labial herpes was marked. On the seventh day hæmatogenous jaundice developed. The patient had good stools during the course of the pneumonia, but flatus was very abundant. There was considerable kidney irritation and on the fourth day 2 per cent. of albumin was found in the urine. On the sixth day this had risen to 5 per cent. After this time the amount of albumin declined until it disappeared. The pneumonia proved very severe, affecting nearly every portion of the lungs. Resolution proceeded very rapidly and convalescence was without incident until the patient's recovery seemed assured.

On the twenty-ninth day after the beginning of the illness the patient while sitting up in the afternoon was taken with extreme weakness. He was at once put to bed and slept. After this his shoulder was swollen and tender. He became restless and during the next few days a series of symptoms developed affecting most noticeably the nervous system and the special senses. There was some photophobia, some disturbance of hearing, and some hesitancy in speech. Later embolic symptoms developed. Red spots appeared on many parts of the cutaneous surface and these gradually changed to purplish in color. All the joints became sore, tender, and swollen. The fingers were especially involved in this process. After several days an aortic diastolic murmur became audible.

The patient was kept absolutely at rest and, despite the severity of the symp-

toms, began to improve. The arthritic symptoms were especially slow to disappear. The profound prostration so marked a characteristic of the disease did not disappear completely for over three months. The fingers were not entirely well for eighteen months after the illness. A few hyaline and even a granular cast or two could be found after two years. The prognosis of ulcerative endocarditis due to the pneumococcus is not so absolutely fatal as for other forms of the disease, but it is evident that the hope extended to the patient must include the warning as to very slow convalescence. E. F. Wells (Proceedings of the American Medical Association; Medical News, June 21, 1902).

PROSTATIC HYPERTROPHY.

Palliative measures should not be persisted in when they fail after reasonable trial to produce and maintain an abatement of symptoms.

A first infection of the bladder is not alone sufficient excuse for operation unless palliative measures fail to promptly subdue inflammatory conditions.

Recurring infection of the bladder or ascending infection of the kidney is sufficient warrant for operative interference.

There is a growing tendency toward earlier operation than was formerly practiced.

The greater number of cases of prostatic hypertrophy can be satisfactorily reached through a perineal incision.

In the large majority of cases the requirements of any operation upon the prostate consist in the removal of the obstructing area and depressing the bladder opening into the prostate, so that the *bas-fond* may be properly drained.

In many cases the obstructing area of the hypertrophied gland can be satisfactorily reached and effectually removed

through a perineal opening by means of galvanocaustic incisions.

If it is decided that the perineal route is the proper method of approaching the prostate for operation in a given case, and that in operating it is intended to remove only the portion of the gland that interferes with bladder drainage, the method which will accomplish this end with the quickest dispatch, with the smallest degree of mortality, and with the least distress during the period of confinement, should be the operation of choice. No one operation can be suitable to all cases. Suprapubic prostatectomy has its advantages in certain forms of extensive prostatic hypertrophy. Peri-

At the last meeting of the American Association of Genito-urinary Surgeons the writer presented a communication upon the subject of contracture of the neck of the bladder and its relief by perineal galvano-prostatectomy. The advisability of employing the same operation in some forms of prostatic hypertrophy had already suggested itself; and, in fact, some of the cases operated upon and reported were prostatitics. It was thought better, however, at that time to approach the subject with a moderate amount of enthusiasm and confidence; and prominence was therefore given to the minor condition of contracture of the neck of the bladder: a condition which is akin



Galvanocautery incisor used in operating upon the prostate through a perineal opening. The upper part shows the complete instrument, the lower the cautery-knives, which can be changed at will. (*C. H. Chetwood.*)

(*New York Medical Journal.*)

neal enucleation of the prostate is better thought of to-day by genito-urinary surgeons generally than at any time during the last ten years, and its results speak for themselves. Some forms of prostatic enlargement are especially amenable to this particular operation. Some cases, on account of the nature of the growth, present decided difficulties, and are unfavorable for enucleation. The method of morcellation, or taking away the prostate piecemeal with the cutting-forceps, can be effected through the perineum in those cases in which enucleation is difficult; but it would seem probable that the danger of venous thrombosis and fatal septic embolism is much enhanced by this method.

in its nature to prostatic hypertrophy in the obstruction it produces to the urinary outlet. The satisfactory results and permanent benefits which have followed this operation in the cases already reported led to its more extended adoption in a number of patients with advanced prostatic hypertrophy.

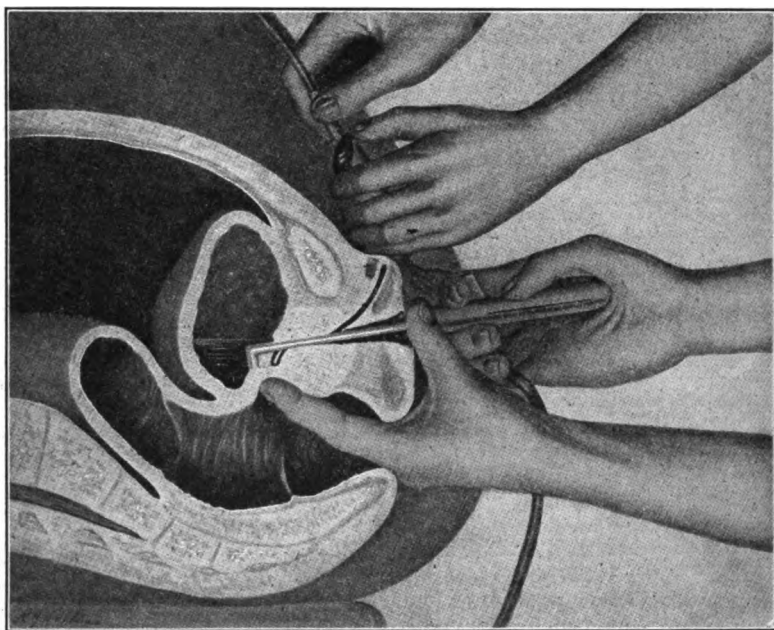
The cautery incisor has been improved in some respects. The different-sized blades are changeable at will, like the modified Freudenberg incisor of H. H. Young. The beak of the instrument is bent at an obtuse instead of at a right angle. A small, non-conducting metal piece, $\frac{1}{16}$ inch in height, has been applied to the upper portion of the proximal side of the platinum blade to pro-

test the sphincter-muscle. The experience derived from upward of forty cases has aided in determining the proper extent and limit of the galvanocautastic incisions.

The earliest record that the writer has been able to find of the use of the galvanocautery upon the hypertrophied prostate through a perineal opening is

puncture nodes of hypertrophied tissue. None of these methods was known to me until after the construction and use of the instrument previously exhibited.

The results obtained in the cases of prostatic hypertrophy have been even more uniformly good than the previous ones reported of contracture of the neck of the bladder, in that they have not



Cut showing method employed in performing operations upon the prostate with the galvanocautery through a perineal opening. (*C. H. Chatwood.*)

(*New York Medical Journal.*)

that of W. T. Belfield, who employed the method in 1886. In 1888 F. S. Watson devised a galvanocautery instrument for the purpose of attacking the enlarged prostate through a perineal wound, but reports no cases. W. N. Wishard, in May, 1895, in describing different methods of removing the prostate through the perineum, speaks of using small galvanocautery points to

been followed in any instance by the complication which marred the success of the few of the contracture cases, namely: partial incontinence of urine. The explanation of this occurrence is probably too great length of the galvanocautastic incision, which impaired the integrity of the internal sphincter of the bladder, and in the later cases great care has been taken to avoid

complete section of the vesico-urethral isthmus.

The steps of the operation consist in opening the urethra upon a grooved staff. Digital exploration of the bladder is then made through this opening, and a correct knowledge of the nature and extent of the prostatic growth obtained. In some cases in which the perineal distance is extreme and it is impossible to reach beyond the vesical neck, a specially devised retractor is employed to shorten the distance and to facilitate examination. The number of the galvanocautic incisions varies according to the nature of the growth and the manner in which it obstructs the bladder outlet.

Generally speaking, such obstruction is produced by an obtruding middle lobe which blocks the orifice by intravesical and urethral hypertrophy of the two lateral lobes which elevate a median fold of mucous membrane and flatten the vesical orifice, or by intra-urethral prostatic nodules.

A median lobe is treated with one incision through the center or one on each side, when the intermediate portion may be excised. The bilateral enlargement is treated with two ample incisions directed at an angle toward the median line, which serve to widen the flattened urethral outlet and to drop the elevated fold of mucous membrane. Intra-urethral nodules are best enucleated in the usual way, and the operation completed by an intravesical galvanocautic incision, if such is required. Charles H. Chetwood (New York Medical Journal, May 31, 1902).

PUERPERAL TOXÆMIA.

Puerperal toxæmia is due to the implantation of pyogenic bacteria within

the genital tract before, during, or after labor, in which they find a well-tilled soil, of the right temperature, moistened with the necessary saline fluid, upon which they thrive, and, multiplying living or dead, produce chemical substances (toxins) which, when absorbed into the system, induce the condition known as toxæmia and give rise to the symptom-complex designated sapræmia and septicæmia.

The introduction of micro-organisms is in the larger proportion of cases (barring gonococcic cases) an avoidable offense.

Unfortunately, infection from external sources is not rare; therefore it is the imperative duty of nurse, student, and physician, when in charge of a pregnant or puerperal woman, to conscientiously practice asepsis. A. E. Gallant (Medical News, May 24, 1902).

RELAXATION OF THE ABDOMINAL WALL UNDER ANÆSTHETICS.

A general survey of the conditions of the abdominal wall which interfere with an operator's convenience shows that there are some unusual cases in which the anæsthetist cannot remove the difficulty, but that in the great majority of instances he can obtain a perfectly satisfactory condition by maintaining unimpeded breathing, complete absence of cyanosis, and sufficiently deep anæsthesia. These *desiderata* he obtains by properly selecting his anæsthetic, by giving it freely with a liberal supply of air, by keeping the air-passages free, and by holding the lower jaw well forward. When this is not enough, the mouth must be slightly opened and the tongue drawn out. Again, it often happens that only toward the close of an operation is the patient's abdomen in a

perfectly satisfactory condition from the surgeon's point of view. It is a good plan, therefore, in abdominal cases to let the anæsthetic get to work at the earliest possible moment—as soon, for instance, as the surgeon begins to get his instruments ready, by such a step at the close of the operation only the surgeon and anæsthetist witnessing the condition which they had all along been desiring. J. Blumfeld (*Lancet*, May 31, 1902).

RHEUMATISM, ACUTE ARTICULAR.

Report of 270 cases of acute articular rheumatism which represent 2 per cent. of the medical admissions to the Johns Hopkins Hospital. The majority of the cases occurred in the months of February to May, inclusive. There was a family history of rheumatism in 25 per cent. and a history of alcoholism in 40 per cent. The fever averaged twelve days in duration. There were no cases of hyperpyrexia. Endocarditis and definite organic lesions occurred in 32 per cent. Murmurs frequently disappeared. There was pericarditis in 6 per cent. of the cases accompanied invariably by leucocytosis. Bacteriological examination of the fluid from the joint, the blood, and the cerebro-spinal fluid was always negative. In monarticular cases the diagnosis is often wrongly made tuberculous arthritis. Thomas McCrae (*Proceedings of the American Medical Association*; *Philadelphia Medical Journal*, June 21, 1902).

In acute rheumatism the most satisfactory treatment is with the salicylates. They should be administered in large doses, from 90 to 100 grains daily. Idiosyncrasies sometimes occur. Nervous symptoms, digestive symptoms, and nephritis are contra-indications to their

use. Sodium salicylate is the most frequent preparation used. Salicin, oil of wintergreen, and salicylic acid are also much employed. The synthetic products are not well borne, because they irritate the stomach and the kidneys. Alkalies should be given in conjunction with the salicylates. The coal-tar products, of which antipyrin is the best, have been suggested as substitutes for the salicylates. J. J. Walsh (*Proceedings of the American Medical Association*; *Philadelphia Medical Journal*, June 21, 1902).

ROENTGEN RAYS IN THERAPEUTICS.

Electricity has always been a field for the sanguine therapist and too often a disappointment to the conservative judicious practitioner. High hopes raised by flattering reports of its efficiency have been again and again overthrown by the hard lessons of actual experience, and some, like a distinguished German neurologist, have even gone so far as to hold that in the vast majority of cases its good effects have been merely those of psychological impressions, thus practically relegating it to the class of suggestive medicine. Methods of its employment—the Apostoli treatment for myomata, for example—have been a temporary craze to be almost entirely forgotten in a very few years. When d'Arsonval showed some years ago that currents of very high potential might be used on human beings with perfect safety, hope ran high for the eventual discovery of effective electrical treatment. It proved as disappointing as all previous methods of using electricity in medicine. As Professor Osborn said recently with regard to biological problems generally: "Life rarely

acts according to the reasoning of the closest philosopher. Out of the careful observations of the unexpected, however, is come the *rationale* of the life processes." It may easily be that the pendulum has swung too far in this direction of skepticism, but the effect is the same and the distrust of high claims for new methods of utilizing electricity and allied agencies is the rule with the conservative portion of our profession.

Perhaps it is a good sign that it is now five years after the introduction that the therapeutic effect of the x-rays is beginning to be one of the most important features in the medical and surgical horizon. There seems some reason for hope from recent reports of conservative observations that this form of radiant energy is not to prove as disappointing therapeutically as have other forms. The morbid effects of the x-ray exposures on normal tissues and the precancerous keratosis, observed by Johnston, are suggestive of a similarly hostile action on therapeutic utility. The favorable results reported by Pusey, Allen, Rinehart, Lee, and others here and abroad seem to point to a real value of these rays in a large number of cases of malignant disease, and the testimony is increasing. Dr. Pusey gives an encouraging, but still a very conservative, view of the possibilities of x-ray therapeutics. A like encouraging note has prevailed in quite recent articles by Morton, Hopkins, and others, and notably in the discussion of a paper by Dr. F. H. Williams read at the meeting of the New York Academy of Medicine, March 6, 1902.

We are probably just entering on a period when x-rays will be extensively used in the treatment of many forms of disease. It is important, then, to realize the limitations and the possibilities

of the new therapeutic agent as far as possible. Dr. Coley, at the meeting of the New York Academy of Medicine mentioned, pointed out one of the limitations. In his experience the x-rays do not favorably affect rapidly growing malignant tumors at all. Sarcomata, especially those of the round-cell variety that so often take on luxuriant neoplastic activity, seem not to be inhibited in the slightest even by long and daily exposures to the x-rays. (On the contrary, Pusey reports a rapidly growing round-cell sarcoma which subsided with marked rapidity under x-rays.) Other more slowly growing sarcomata are very frequently not only inhibited in growth, but induced to take on a shriveling process that leads to their ultimate disappearance. This is true at times, even after a series of operations, when the neoplasm has become absolutely inoperable and death seems inevitable.

In Dr. Williams's experience no external malignant tumor has failed to be benefited by exposure to the x-rays. Even in cases where extensive involvement of deep-seated tissues rendered all hope of permanent cure futile and where the progress of internal symptoms showed that the deeply situated process continues to spread, the superficial neoplastic tissues were always favorably affected, the odor of discharges was rendered less intolerable, and the discomfort was considerably lessened. The most striking feature of the employment of the x-rays by all has been the lessening of the pain associated with the malignant conditions. In cancers *en cuirasse*, where the chest was imprisoned as in a vise, to the constant intense discomfort of the patient, relief was afforded almost immediately after exposure. In the extremely tender

cancers of the breast in which even the weight of clothing becomes insupportable, this exaggerated sensitiveness can be made to disappear. Even the painful conditions associated with cancer of the stomach are assuaged, and in some reported cases the patient has been able for a time at least to once more take nourishment.

It would seem, then, that the x-rays may be resorted to in all inoperable and painful cancers. Further, in recurrences after operation for cancer the malignant nodules are often so close to the surface that they form an especially favorable subject for x-ray treatment. It is in these cases that the most satisfactory results have been obtained. With regard to superficial epitheliomata the question comes up: shall they be treated by surgical intervention or by the x-rays? In any case it is evident at the end of two weeks whether the x-rays will be of benefit or not. This is not too long a delay to ask before having recourse to the knife. As in the doubtful cases where there is a suspicion of syphilis the therapeutic test of specific treatment is applied, so in the cases of epitheliomata the possible benefit of x-ray treatment should be sought.

Notwithstanding all these remarkable results and the very evident indications from the same, the therapeutics of the x-ray is yet in its infancy and a wise conservatism is advisable as regards its future. The promise so far is the brightest, but there is much yet to be learned both as to its possibilities and as to its limitations. With care the exact value of the x-rays for malignant disease can be determined without any of the unseemly overenthusiasm and consequent reactionary disappointment that has characterized the introduction of every new therapeutic agent of any

promise during this last quarter of a century. Let us hope that the dignity of the medical profession will not in this matter be compromised before the public as it has been so often under similar circumstances in the past. Editorial (*Journal of the American Medical Association*, April 12, 1902).

SCARLATINA.

The diagnosis of scarlatina has now become a more difficult matter than formerly, when the disease was of a severer and better-marked type. From time to time cases are admitted to hospital in which the diagnosis is so very doubtful that it is important to study the points on which to rely in coming to a decision. The chief symptoms of scarlatina are vomiting, sore throat, elevation of temperature, frequent pulse, and rash. Vomiting or a distinct feeling of nausea is nearly always present; it has been found in over 90 per cent. of the cases admitted to Cork Street Fever Hospital. Sore throat in children will often only be discovered by following the golden rule of always looking at the throat when examining a child. In scarlatina there is a red punctiform appearance on the pharynx, soft palate, tonsils, and hard palate. In mild cases a peculiar dull yellowish whiteness of the hard palate will often be seen on the second day. The presence of punctation on the hard palate is a very important sign in diagnosing doubtful cases of scarlet fever. The temperature at the commencement generally ranges from 100° to 104° F. In mild cases it may become normal on the third day. The pulse-rate is more characteristic, and even in mild cases of scarlet fever it is usually over 120 at the onset. The rash in scarlatina does not invade the

circumoral zone. It is almost invariably out before the third day. It varies much in degree; in the very mild cases there exists a fine punctiform rash on the tonsils, the hard and soft palates, and over the surface of the body where the skin is softest, such as the flexor aspect of the arms, the sides of the chest, the lowest part of the abdomen, the upper part of the thighs, and in the axillæ. The tongue in the early stages is coated, sometimes heavily, but later on the injected papillæ show through, and it becomes stripped, and then the true "strawberry" tongue, with the prominent fungiform papillæ, is well marked. In mild cases the strawberry tongue may never be a marked feature. Mild cases of scarlatina often do not show definite signs of desquamation until three weeks after the onset of the rash, and then it may take the form of a polishing of the tips of the fingers, a roughness at the backs of the ears, powdering over the flexors of the joints and of the chest-walls, with later on stripping of the feet. J. M. Day (Treatment, May, 1902).

SCARLET FEVER.

Outbreak of sore throats and of scarlet fever due apparently to the use of infected milk, which after close investigation led to the following conclusions:—

1. Scarlet fever may be caused by infected milk containing the contagion in such an attenuated form or minute quantity that no symptoms manifest themselves except an anomalous sore throat with fever. 2. Scarlet fever may assume this type in a large number of children who have not been partially protected by a previous attack of scarlet fever. 3. If such anomalous cases occur among milkmen or their families, the milk may be infected at intervals for a much longer

time than has been recognized in previously described milk outbreaks of scarlet fever and scarlatinal sore throat. 4. The fact that only a few cases of scarlet fever are traceable to a given milk-supply does not necessarily show that this milk is not infective. The fewness of the cases in this outbreak and their sporadic character is analogous to the suspected connection between sporadic cases of enteric fever in the metropolis and the presence of an excessive amount of organic matter in the metropolitan river-water supply (Corfield), or the occurrence of floods a fortnight before the onset of the cases in question (Shirley Murphy). In each instance the dose of the contagion is small, and the detection of causative connection between the infecting material and the cases of disease is difficult. The demonstration of the connection is impossible. 5. The occurrence of anomalous attacks of sore throat, as in this outbreak, indicates the desirability of the notification of all such cases to the medical officer of health. Newsholme (Journal of Hygiene, ii, Part 2, 1902).

SCARLET FEVER, SERUM IN.

Since the discovery of antidiphtheritic serum a number of experiments have been attempted, often with little success, to apply the same principle of progressive immunization to various animals by means of cultures or toxins of microbic origin with the view of obtaining curative serums for other infectious maladies, such as cholera, small-pox, typhoid fever, etc. The eruptive fevers and in particular scarlet fever have not lent themselves to these researches, because the agents producing them are not very fully known; but as a first attempt to answer the general question of immunization in these allied diseases, it has been asked whether the serum from the blood of

subjects recently cured of scarlet fever, for example, might not be capable of exercising favorable influence against this disease? The writer has shown that such injections seem to make the patients feel better, but do not have a very definite effect upon the various other symptoms, such as the fever and local signs. The results were, in short, somewhat contradictory. E. von Leyden, O. Huber, and F. Blumenthal have also carried out a similar series of experiments. Von Leyden injected only 10 cubic centimeters of serum from convalescents, and later 20 cubic centimeters without even seeing bad symptoms. He estimates, furthermore, that with advantage this dose may be increased. It goes without saying that it is of the highest importance to be certain that the subject furnishing the serum is exempt from various diseases. This serum-therapy was applied in about 16 cases. One of them was a woman who, after an abortion, suffered also from scarlet fever. In her case the result was remarkable. In 15 other patients, 6 gave positive and 9 doubtful results after treatment. Von Leyden thinks that his experiments have proved great possibilities from this form of treatment. Weisbecker (*La Semaine Médicale*, Mar. 26, 1902).

SEPTIC INFECTIONS, SLOW RECTAL INJECTIONS OF WEAK SALINE SOLUTION IN.

Dissatisfied with the effects in septic infection of subcutaneous, intravenous, and rectal injections of salt solution, administered in the ordinary way, and believing that in view of the cardiac weakness in such cases it would be better neither to introduce into the system too large quantities of fluid at one time, nor to push the injection too rapidly, the

writer has tried a method of rectal injection recommended by Hegar, which is as follows: The cannula introduced into the rectum is supplied by a receptacle filled with the fluid to be injected, and this fluid is allowed to flow into the bowel very slowly under very slight pressure until the patient is sensible of a certain amount of tension; the receptacle is then lowered so as to cause part of the injected fluid to flow back into it; this process is repeated, the liquid being changed after a time if it is soiled by fecal matter. As soon as the rectum has been sufficiently cleansed absorption by the mucosa commences to the extent of 500 to 1000 cubic centimeters an hour; this is soon followed by more or less profuse diuresis, the relief of the thirst and parched mucous membrane, and by abundant perspiration, which, unlike many critical sweats, is not accompanied by collapse or any distressing symptom, even though the temperature sinks to normal. As soon as the thermometer shows a rise, the injection is repeated in the same way as before. The writer employs a 0.5- to 1-per-cent. solution of chloride of sodium, and has obtained excellent results in 3 cases of abortion with septic infection and very grave systemic symptoms, in 1 case of acute septicæmia following a normal labor, and in a case of acute peritonitis due to an old salpingitis; he suggests that this method would be beneficial in eclampsia, which is now considered to be an acute systemic intoxication. Nernitz (*Semaine Médicale*, p. 56, 1902).

SINUS DISEASE, PROPHYLAXIS OF.

The prevalence and serious nature of diseases of the accessory cavities render it desirable to understand clearly not only how they might be cured, but also in what manner, if possible, they might

be prevented. The common predisposing causes are anatomical deformities of the nasal septum, of the middle turbinated bodies, and of the nasal cavity itself; thickening of the soft parts lining the septum and turbinates; in short, any condition which hinders free drainage from the nasal cavity.

Exciting causes are various exanthematous and infectious diseases; certain chronic conditions, such as syphilis, tuberculosis, and the various types of new growths; dental irritation; traumatism; and the introduction of various infectious germs. The most common exciting cause appears to be gripe.

The possibilities of sinus disease, immediate or remote, should be remembered in dealing with fractures of the nose and in the existence of permanent nasal deformities, and care should be taken to secure the normal drainage of the middle turbinal region. Hypertrophic conditions tending to occlude this neighborhood should be recognized and relieved. The greatest opportunity for the prevention of serious sinus disease lies in the prompt recognition and immediate effective treatment of all acute inflammatory conditions of the accessory sinuses. This is especially true of gripe. Treatment for the acute inflammations is recommended in detail.

In the prophylaxis of sinus disease much good may be accomplished: 1. By recognizing the conditions under which inflammation of the sinus are likely to recur and, if possible, removing them. 2. When removal of the predisposing condition is not practicable, by guarding the patient against the various exciting causes which may determine an acute attack. 3. When acute inflammation is already threatened, by applying immediate treatment for its relief, the

great danger being recognized of recurrent mild acute attack. D. Bryson Delavan (Proceedings of the American Medical Association; New York Medical Journal, June 14, 1902).

SUPRARENAL CAPSULE, FUNCTION OF THE.

Among the most widely-accepted doctrines concerning the suprarenal function is that which declares its office to be the secretion of a special substance which maintains the tonus of the cardiovascular system. Certain it is that suprarenal extracts introduced into the organism are shown to contain a substance which produces a condition of hypertonia. This substance, according to Fraenkel, belongs to the ortho-diazobenzoic series, and to it he has given the name of sphymogenin. It is believed by some to exercise a tonic effect upon the cardiovascular centers of the medulla oblongata; by others its influence is thought to act upon the general muscular system. The writers have sought the solution of that part of the problem which deals with the question of the secretion of this substance by the glandular elements during life or its development as a decomposition-product in the extract. To this end blood was withdrawn from the suprarenal vein of a dog and at once introduced into the jugular vein of another dog. Sphygmographic and pneumographic tracings taken immediately after the injections showed increased arterial pressure, decreased frequency of cardiac systole, but increase in its strength, with slow and superficial respiration. In the control-experiments with blood from the general circulation these phenomena were not produced. The circulatory and respiratory changes caused by injection of blood from the suprarenal vein were

identical with those induced by injection of suprarenal extract; hence it is concluded that the substance producing these effects is a product of the internal secretion of the suprarenal capsule. I. Salvioli and P. Pezzolini (*Gazzetta degli Ospedali*, March 23, 1902).

SYPHILIS.

The urine of syphilitics, far from being hyperacid, is, on the contrary, hypoacid, and this hypoacidity is but little diminished by a stay in the hospital; the acidity of the blood also suffers a considerable diminution; the mercurial cure, acting upon the body in general, and probably the liver in particular, increases the hypoacidity of the urine, and consequently also the blood; finally, the mercurial cure, specifically for the syphilitic manifestations, is insufficient to bring on a complete cure, and it is necessary to combine with it a treatment acting upon nutrition in general and upon the nervous and hepatic functions in special. E. Buffa (*Archives Internationales de Pharmacologie et de Therapie*, vol. ix, fasc. 5 and 6, 1902).

TUBERCULAR CAVITIES OF THE LUNGS, SURGERY OF.

The procedures which have been proposed for tubercular cavities are: compression either by strapping the chest, injecting air into the pleural cavity, or by resecting a portion of the chest-wall; counter-irritation by means of the actual cautery; injections directly into the lung; pneumotomy; and pneumectomy. Of these, pneumotomy seems to be the most rational. When the middle and lower lobes are involved, the operation is uniformly successful, and even in the presence of mixed infection there is at least a transient improvement in the

cough and the general condition of the patient. Chloroform is the best general anæsthetic; the operation may be done with a local anæsthetic. Two inches of rib are excised over the diseased area, care being taken not to open the pleural cavity. If there are no pleural adhesions the second stage of operation should be postponed for twenty-four hours. The writer purposes to pass sutures through the unopened chest-wall down through both layers of the pleura in the form of a parallelogram twenty-four hours before operation in order to secure adhesions. After the lung has been exposed the abscess is located with an aspirator and the cavity opened with a knife or cautery; the tract is then dilated with the finger or with forceps and the contents removed with sponges; irrigation is not employed. De Forest Willard (*Proceedings of the American Medical Association; Philadelphia Medical Journal*, June 21, 1902).

TUBERCULIN IN DIAGNOSIS.

Study of 100 cases in which this agent was employed as a diagnostic measure. The following are requirements for the reaction: (1) the rise in temperature must amount to at least two degrees; (2) it must reach its height between six and twenty-four hours after the injection, except in fibroid cases, in which it may be delayed to thirty-six hours; (3) it must be accompanied by at least two of the following symptoms: Chilliness, nausea, headache, and muscular pains. Of these cases, 41 gave the reaction, of which 36 were later proven undoubted tuberculosis; 3 were syphilitic, and 2 profoundly neurotic. Active syphilis must always be definitely excluded. Of the 59 cases which failed to give the

reaction, only 1 subsequently showed evidence of tuberculosis. The author concludes that tuberculin in doses of 0.005, carefully increased when necessary to 0.010, produced no bad effects in simple or complicated tuberculous or non-tuberculous cases. The characteristic reaction usually occurs about the eighteenth hour and is accompanied by chilliness, headache, nausea, or muscular pain. The tuberculin test ranks in value with the Widal typhoid test, and since in the former the technique is simpler, the materials are more readily obtainable and more permanent, the danger is no greater and the information obtained is scarcely—if at all—less reliable. C. M. Wood (Journal of the American Medical Association, April 19, 1902).

TUBERCULOSIS.

While experimentally infection in an animal may be caused by material taken from a man, this method of infection may, for practical purposes, be neglected. Tuberculosis inflicts grave losses upon the animal industry and may spread from animals to man. It is less frequent among cattle in the West than in the East, where cattle are more in-doors. When introduced into a herd tuberculosis spreads rapidly. As the cattle industry has thrived, bovine tuberculosis has grown in importance. It affects the greatest American industry in a commercial and monetary way. Advanced stages render milk unfit for human consumption. Thus far but 1 per cent. of the diseased animals have been killed, on account of the expense. Slightly infected animals should be isolated; all advanced cases killed. When meat is not eaten raw, there is no danger from the ingestion of tuberculous meat. Milk containing bovine tubercle

bacilli may cause tuberculosis in children and young, susceptible individuals. But this is uncommon. Milk containing bovine tubercle bacilli should not be used as food, nor should any milk containing micro-organisms be sold. J. G. Adami (Boston Medical and Surgical Journal, June 5, 1902).

Methyl-arsenate of soda is not poisonous, and, what is not the case with cacodylate of soda, it admits of being given equally well by the mouth as hypodermically. The writer has made observations as regards the action of the drug on the nutritive changes in cases of tuberculosis. No less than 120 cases of pulmonary tuberculosis have been observed, some quite in the early stages, others in which the symptoms and physical signs were well marked. The drug was not efficacious as regards the phosphaturia of tuberculous patients, and for this reason the author has endeavored to find an assimilable form of phosphorus which could be combined with the preparation of arsenic. Nucleinic acid was selected as the most suitable agent for combination with the arsenical preparation, and to this combination the author has given the name of histogénol.

The results obtained have been very successful, and this in cases proving rebellious to the action of cacodylate of soda, of lecithin, and of creosote. There was a marked increase of weight, the purulent expectoration ceased, night-sweats disappeared, and the cough and fever no longer troubled the patient. The number of red corpuscles also increased greatly. No phosphaturia was observed, and the quantity of urea passed *per diem* increased greatly. The author adds that all these encouraging features were attended by a contemporaneous improvement in the condition

of the physical signs. A. Monneyrat (*Le Progrès Médical*; Treatment, May, 1902).

The injection of Durante's fluid—iodurated iodine—in the treatment of surgical manifestations of tuberculosis has been employed also very successfully in a case of tubercular peritonitis. Five other similar cases have since been recorded, and the authors have directed their attention to the possibility of employing a similar mode of treatment in pulmonary phthisis. If iodine has the power of curing a fistula or a scrofulous gland, a synovitis or a peritonitis due to tuberculosis, why should it not have the same happy effect in phthisis? There are two methods of applying the treatment: that by injection of iodine at a distance, or by the introduction of the same drug directly into the lungs.

The authors have made experiments on rabbits to determine what effect, if any, such injections would have, and also to ascertain any change in weight or in the general condition of the animals operated on. Eight rabbits were subjected to the iodine injection, and were killed at intervals varying from one hour to four days after operation. In some cases the injections were repeated many times. No symptoms whatever of intolerance of the injections resulted, and even when large quantities of the solution were used the result was always the same. The drug was eliminated by the urine, and the quantity of mercury iodide remaining in the lung was directly proportional to the amount of the liquid injected.

The weight of the animals increased during the treatment, pointing, as the authors think, to a general improvement of nutrition under the stimulus of iodine. The liquid has the effect of causing hyperæmia and an escape of

leucocytes in the lungs at the point of injection, and this influence, the authors consider, might be of great value in neutralizing the destructive tendency of the tubercle bacillus and in destroying its toxin. Stefanile and Fabozzi (*Il Policlinico*; Treatment, May, 1902).

The writer studied 978 cases of tuberculosis of the lung coming to autopsy. No case was free from adhesions. In 98 per cent. excision of the tubercular process would have been impossible because of its extensive nature. Pneumotomy is irrational and frequently impossible. It cannot affect the surrounding diseased tissue, and the contents of the cavity are innocuous. Of the 978 autopsies in not one was the infection mixed. Caseous material is a poor soil for pyogenic organisms; a patient with cavity formation does not have high fever. The Murphy method of lung compression with nitrogen-gas is promising, but in only 4 per cent. is this method applicable. H. J. Whitacre (*Proceedings of the American Medical Association*; *Philadelphia Medical Journal*, June 21, 1902).

TUBERCULOUS PERITONITIS.

Tuberculous peritonitis is more common in children than is usually believed to be the case. Many of the cases of so-called "spontaneous ascites" are in reality cases of ascites the result of a tuberculous peritonitis. In many cases of tuberculous peritonitis the exudate will become absorbed under an appropriate tonic treatment, and eventually the patient will entirely regain his health. In the majority of cases the onset of the disease is unnoticed. The first thing usually noted is that the child has become thin and pale without apparent reason. The presence of a serous pleurisy at the same time as the tuberculous peritonitis

markedly facilitates the diagnosis. The most valuable diagnostic symptoms are those caused by the presence of adhesions. Examination of the fluid removed from a case of tuberculous peritonitis will show that it is rich in albumin and of high specific gravity. Operation generally shows that the entire pericardium is involved in the tuberculous process. The diagnosis is especially difficult in cases of chronic ascites complicated by tuberculous pericarditis. It is very exceptional that the onset of tuberculous peritonitis is anything but insidious. Kissil (*Archiv für klinische Chirurgie*, Bd. lxxv, H. 2, 1902).

TUMORS.

The problem of the origin of tumors is a part of the physiology of growth. In explaining malignant tumors pathologists make use of two of the most obvious instances of ordinary tissue-growth, namely: embryonic development and regenerative phenomena. Accordingly, two theories have been advanced to explain tumor-growth: (1) Cohnheim's (Wilm's) and (2) Ribbert's. The result of experimental investigation shows that both theories are insufficient to explain the production of malignant tumors. Neither the regenerative factor alone nor the embryonic character of the cells added to the regenerative factor are able to change ordinary cells into cells of a malignant tumor. It is not yet even certain that transplanted embryonic cells grow better than adult ones, with the exception of cartilage. However, cells of a malignant growth transplanted can give rise to malignant tumors. These latter experiments demonstrate, among other facts, that the formation of metastases is caused by a primary increase in the energy of growth of the tumor-cells, and do not depend, as has been main-

tained, upon a constitutional factor in the individual affected by the tumor.

To strengthen the two first-named theories, auxiliary hypotheses have been added. The secondary factors thus introduced are not yet definite and have still to be tested experimentally. Certain teratomata can be explained by Cohnheim's theory. Certain difficulties, however, exist even in this case. Of special interest for the explanation of certain teratomata are the recent experiments of Spemann on triton. A further experimental analysis of the causative factors of growth is necessary for the advancement of our knowledge of the etiology of tumors. Leo Loeb (*Proceedings of the American Medical Association*; *New York Medical Journal*, June 14, 1902).

TYPHOID FEVER.

The symptoms which are almost invariably present during the first week, to be relied upon for a presumptive diagnosis, are: A daily increase in temperature, with headache and malaise; moist, furred tongue, with red edges and tip; a pulse of 80 or thereabout; and evidences of bronchial catarrh. If to these be added the diazobenzol urinary reaction on the fourth to the sixth day, with or without occurrence of nose-bleed, the presumption is very strong. A palpable spleen, rose-spots, and the Widal reaction early in the second week supplementary to the foregoing, would make the diagnosis absolute. The diseases most commonly mistaken for typhoid fever are remittent malarial fever; continued fever of uncertain septic origin, commonly called simple febricula; acute miliary tuberculosis; grippe; appendicitis; typhoid pneumonia, and septicæmia. W. O. Bridges (*Journal of the American Medical Association*, May 17, 1902).

The elimination of phosphates is much greater in typhoid fever than in pneumonia. During the period of fever there is a diminution in the amount, especially of the earthy phosphates. The ratio of the earthy phosphates to the total phosphates is gradually reduced from 30 to 20 per cent., and even to 10 per cent. After the fever has passed there is a phosphatic crisis. In one patient 13 grammes of phosphates were passed in twenty-four hours. F. X. Gouraud (*La Presse Médicale*, March 26, 1902).

Protective Inoculation.—In a report from Lieutenant J. W. West in South Africa, concerning statistics in typhoid fever of antityphoid inoculation among the soldiers in South Africa, the summary is as follows: In a regiment of 747 men and officers, 547 were uninoculated; 23 cases, or 4.2 per cent.; 7 deaths, or 1.3 per cent. of the whole, or 1 in 3.3 of those stricken. The inoculated were 200; 3 cases, or 1.5 per cent., with no deaths whatever. If one adds this admirable record to similar ones already in hand it is plain that the promises of antityphoid serum are rapidly being fulfilled. A. E. Wright (*Lancet*, April 2, 1902).

UTERINE CANCER.

The influence of pregnancy and that of climacteric age upon the permanent results of radical operation for carcinoma of the uterus was studied in a series of 122 cases collected from literature, in which the radical operation for carcinoma of the pregnant or puerperal uterus has been performed by various operators. Of these, 82 date at least five years before the writer's conclusions, but half of them from various reasons are not available for his investigation. The proportion of permanent cures in the remaining 41 was 24 per cent. On the other hand, in 73 valid

cases of radical operation for cancer in the climacterium, the permanent cures were 50 per cent. These results confirm the dictum that the prognosis of the permanent results of the radical operation for uterine carcinoma is influenced favorably by the climacteric and unfavorably by pregnancy. Hense (*Zeits. f. geb. u. Gyn.*, Bd. xlv, H. 1, 1902).

VESICULAR MURMUR.

Laennec has attributed the origin of the vesicular respiratory sound to the friction of the air in the small tubes and its entrance into the infundibulum. This explanation had been disputed. Certain Germans have maintained on theoretical grounds that the vesicular breath-sounds are no other than the sounds of the air passing through the smaller bronchi as modified by the intervening lung-tissue. Penzoldt attempted to demonstrate this view by covering the human trachea with the inflated lung of a sheep when the tracheal breath-sounds beckon, according to him, the character of the vesicular murmur. The author has repeated this experiment, however, and finds nothing in it to confirm Penzoldt's statements. The vesicular and bronchial sounds are evidently of different origin. C. F. Hoover (*Proceedings of the American Medical Association*; *Medical News*, June 14, 1902).

VOMITING OF PREGNANCY.

Eight cases of persistent vomiting of pregnancy treated by systematic saline injections—preferentially by the rectum—of from 3 to 4 liters of artificial serum daily, in divided doses of 300 grammes each. The injection is made so slowly as to occupy from ten to fifteen minutes,

and is arrested if it produces peristalsis, to be recommenced when the movements have ceased. Should there be intolerance a few drops of laudanum may be added, or if necessary the serum may be introduced hypodermically. During the ten days or so that the treatment is continued the patient takes neither liquids nor solids by the mouth, and then, while the injections are continued for several

days, oral nourishment is gradually increased from a few mouthfuls to the ordinary quantity. This treatment is based on the idea that the persistent vomiting of pregnancy is due to general intoxication, and averted the necessity of inducing abortion in any of the eight cases in which it was adopted. Condamin (*British Gynæcological Journal*, May, 1902).

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following:—

THE NEUROSES OF THE GENITO-URINARY SYSTEM IN THE MALE, WITH STERILITY AND IMPOTENCE. By Dr. R. Uitzmann, Professor of Genito-urinary Diseases in the University of Vienna. Second Edition. Revised, with Notes and a Supplementary Article on Nervous Impotence, by the Translator, Gardner W. Allen, M.D., Surgeon in the Genito-urinary Department of the Boston Dispensary, Instructor in Genito-urinary Surgery in Tuft's Medical College. Illustrated. Pages, 198. 12mo. Price, Extra Cloth, \$1.00, net, Delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

The Antirabic Vaccinations at the New York Pasteur Institute During 1900 and 1901. By G. G. Rambaud, New York. 1902.—The History of the Invention and of the Development of the Ophthalmoscope. By Harry Friedenwald, Baltimore, Md.—Hermann von Helmholtz: The Inventor of the Ophthalmoscope. By Casey A. Wood, Chicago, Ill. 1902.—The Treatment of Suppuration in the Uterine Appendages. By Charles P. Noble, Philadelphia. 1902.—The Half-hitch Suture: A New Suture for Use in Anterior Colporrhaphy. By C. P. Noble, Philadelphia. 1902.—The Ultimate Results of Nephrorrhaphy. By C. P. Noble, Philadelphia. 1902.—Report of a Case of Subcutaneous Emphysema Due to Tracheal Ulceration—Probably Diphtheritic. By J. Gurney Taylor, Philadelphia. 1902.—Epistaxis: Its Causation and Treatment. By Gordon King, New Orleans. 1902.—The Influence of Nasal Obstruction on the Development of the Maxillæ and Teeth. By Gordon King, New Orleans. 1901.—The Bucco-Antral Route in Neurectomy for the Relief of Tic Douloureux. By Gordon King, New Orleans, La. 1901.—Acute Emphysematous Gangrene Originating in the Mastoid Process. By Gordon King, New Orleans, La.—Middle-Ear Inflammations in Childhood and their Relation to Deaf-mutism. By Gordon King, New Orleans.—Report of Eighteen Cases of Various Eruptions Associated with Malarial Infection. By Martin F. Engman.—Contributions to Practical Therapeutics. By A. C. Barnes and Hermann Hille, Philadelphia. 1902.—Some Modifications of the Author's Original V-Shaped Operation for Correction of Deflection of the Septum. By D. Braden Kyle, Philadelphia. 1902.—Note sur l'Emploi de l'Électro-Aimant pour l'Extraction des Corps Étrangers Métalliques des Voies Aériennes. Par le Dr. de Roaldès, de la Nouvelle-Orléans.—Des Injections de Paraffine dans les Cas de Déformations du Nez. Par le Dr. J. Baratoux. 1902.—Twelfth Annual Report of the Eye, Ear, Nose, and Throat Hospital of New Orleans, La., January 1, 1901, to December 31, 1901. 1902.—Sixth Annual Report of the Board of Managers of the Pennsylvania Epileptic Hospital and Colony Farm, for the year 1901.—Report of the Philadelphia Pediatric Society Milk Commission. 1902.—Yellow Fever in France, Italy, Great Britain, and Austria and Bibliography of Yellow Fever in Europe. May, 1902, U. S. Marine-Hospital Service, Washington, D. C.—Dairying in the South. By S. M. Tracy, U. S. Department of Agriculture, Washington, D. C. 1902.—American Breeds of Beef-cattle, with Remarks on Pedigrees. By George M. Rommel, U. S. Department of Agriculture, Washington, D. C. 1902.—Orchard Enemies in the Pacific Northwest. By C. V. Piper, U. S. Department of Agriculture, Washington, D. C. 1902.—Scabies in Cattle. By R. W. Hickman, U. S. Department of Agriculture, Washington, D. C. 1902.—Principal Insects Liable to be Distributed on Nursery Stock. By Nathan Banks, U. S. Department of Agriculture, Washington, D. C. 1902.—How Insects Affect Health in Rural Districts. By L. O. Howard, U. S. Department of Agriculture, Washington, D. C. 1902.

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Cyclopædia of Current literature.

ADENOIDS.

While adenoids consist essentially of hyperplastic pharyngeal lymphoid tissue, the epithelium and fibrous-tissue changes are inconstant, variable, and independent of the age of the patient. The new-formed fibrous tissue is largely perivas-

cular in distribution. It may occasion-ally be one of the factors in the process of disappearance of the adenoid. The hyperplastic pharyngeal tonsil often con-tains micro-organisms, and these are mainly pyococcal forms. The bacteria, for the most part, lie near the surface;

and the infection usually occurs from the surface, with or without demonstrable lesion of the epithelium. Primary tuberculosis of adenoids is probably more common than most previous studies show. Sixteen per cent. of the writer's series contained tubercle bacilli, 10 per cent. with characteristic lesions of tuberculosis. The tubercle bacilli were present in small numbers. The lesions in primary tuberculosis of the adenoid are generally close to the epithelial surface and focal in character. Occasionally they may be found in the deeper parts of the pharyngeal lymphoid tissue. The pharyngeal tonsil may be a portal of entry for the tubercle bacillus and other micro-organisms in localized or general infections. A. J. Lartigau and Matthias Nicoll, Jr. (*American Journal of the Medical Sciences*, June, 1902).

AMAUROSIS, SUBCUTANEOUS INJECTIONS OF STRYCHNINE IN.

This treatment was tried in 26 cases. In 15 of these no effect was produced and the disease progressed to blindness, but in 8 cases the result was encouraging. The necessity of adopting any method of treatment which offers the smallest chance of relief urged. Strychnine is a stimulant to the optic nerve, which even in normal eyes temporarily increases the acuteness of vision and widens the visual field; in certain cases of optic-nerve atrophy the local subcutaneous injection of strychnine has coincided with an arrest of the progress of the disease, and has been followed by a somewhat increased acuteness of vision; in a progressive case it is one's duty to state the facts to the patient and allow him to take the treatment if he be so inclined. The alkaloid should be administered in the temple by subcutaneous injection. Has-

ket Derby (*Boston Medical and Surgical Journal*, May 15, 1902).

ANGINA PECTORIS.

While, in general, the vascular origin of angina pectoris cannot be denied, cases occur which undoubtedly are due to lesions of the aortic or coronary plexus, and the cases cited are thought to justify the belief that in syphilitic angina pectoris, in which a coronary stenocardia might be considered probable, there exist changes in the aortic plexus and in the nerves of the heart. This alteration of aortic or cardiac plexus may be in the nature of a neuritis, or may be due to changes in the vessels of the nerves, the functional effects of which would be equivalent to a lesion of the nerve proper. Such changes in the nerves or vasa nervorum are caused by a terminal obliterating endarteritis, pericellular infiltration, or embryonic gummata, which irritate the vessels. These changes can, in the large majority of cases, be controlled by energetic specific treatment; hence the importance of early etiological diagnosis. U. Benenati (*La Riforma Medica*, May 3, 5, 6, and 7, 1902).

APPENDICITIS.

There are a certain number of cases in which the diagnosis of appendicitis is so evident that no one questions the propriety of operation. There are other cases in which the symptoms remain permanently, subjecting the patient to frequent exacerbations. There is a third class in which the symptoms abate never to return, on the one hand, or to return at intervals, on the other hand, until relieved or until death occurs. In any case of appendicitis in which the diagnosis is undoubted and the services of a competent surgeon can be secured, operation should be done. (James Tyson.)

Cases of appendicitis should be operated on immediately. (C. G. Stockton.)

The symptoms of catarrhal and of suppurative appendicitis are alike, and there is no way to distinguish between them. Therefore, they should all be operated upon. (Wintersteen.)

Classification indicated by Tyson is a good working basis for the general practitioner. Operation should be done as soon as possible after the diagnosis is made. The physician should consult with a competent surgeon and thus divide the responsibility. There is a mild leucocytosis at the start of appendicitis, and a blood-count should be made at frequent intervals as the case progresses. As pus forms the leucocyte-count will rise rapidly, unless perforation and peritonitis occur. In the latter instance the general symptoms will point to operation. Operation between the attacks in relapsing appendicitis approved of. If all cases in which the diagnosis is clear are operated on at once, the mortality will be diminished. J. M. Anders (Philadelphia Medical Journal, June 21, 1902).

But two incisions personally used for appendicitis: the gridiron, or McBurney, incision; and the clean cut through all the tissues from the skin into the peritoneal cavity. The former should be selected when the conditions justify it; that is, in all clean cases, in those operated upon in the period of quiescence, and in others when the inflammatory and septic processes are limited either within the lumen of the appendix or immediately about its walls and when there is no more than a limited local peritonitis. An incision shorter than three inches except in cases of well-marked abscess is not advisable. In this condition it is best simply to incise and puncture and drain the abscess.

When a condition of sepsis prevails, such as to require a careful operation to prevent wide-spread infection and peritonitis, the writer prefers the clean incision through everything from the skin and including the peritoneum. When the "gridiron" incision is used, it may not be necessary to keep the patient in bed as long as when the "through-and-through" incision is employed. J. A. Wyeth (Medical Record, June 7, 1902).

ARTERIAL TENSION, POTASSIUM NITRATE IN.

The writer argues that arteries lose their elasticity in old age and offer an increased resistance to the blood-stream. As a result the heart hypertrophies. The increased resistance and hypertrophy of the heart lead to an increased tension within the arteries. Angina pectoris may develop and the brain become less nourished, and rupture of the cerebral vessels follow. When the heart is most attacked, the increased tension can be rapidly reduced by amyl nitrite or nitroglycerin. But in order to reduce the tension for a sufficiently long time, so that the cerebral vessels may be kept safe, neither of these drugs is of avail. The potassium nitrate (saltpeter), on the other hand, is capable of dealing with the situation. This action of decreasing heightened arterial tension is more efficiently carried out by a mixture of the nitrate with the nitrite. The following prescription is recommended for cases of arterial decay, with hard pulse, when one wishes to depress the cardiac activity, and to favor the permeability of the arteries:—

R Potass. bicarb., gr. xxviiij.
Potass. nitrici, gr. xviiij.
Sodii nitrosi, gr. ivss.—M.

This is to be taken in the morning,

dissolved in a tumblerful of water. The two salts stimulate the kidneys, and in this way help to get rid of those harmful substances which act directly on the arterial walls, causing constriction. Lauder Brunton (*Deutsche medicinische Wochenschrift*, April 17, 1902).

ASCITES, SURGICAL TREATMENT OF.

Results in five cases of cirrhosis of the liver occurring in the hospital at Kioto, Japan. Laparotomy was performed, and the omentum stitched to the parietal peritoneum refreshed with the sharp spoon. In one of the cases the sharp spoon was applied to both liver and spleen, on the one hand, and to the parietal peritoneum, on the other, to bring about union. With one exception, the results were bad. Case 3 lived for five days, and Case 5 for four days after the operation. Case 4 died four and a half months after the operation, but with rapid return of the ascitic fluid, which had more than once to be removed by tapping. In Case 1 the cirrhosis was malarial in origin. The patient had no return of the ascites, but there was repeated febrile attacks, and he died in three months with hæmorrhagic diathesis. Only one patient—Case 2—found himself, after the operation, in tolerable health. He was a poorly developed boy, of 13 years, who had had for three years palpitation and dyspnœa on exertion, with night-sweats and emaciation. There was some cervical adenitis, and, in his right apex, a suspicious lengthened expiration. The liver was enlarged, with sharply defined edge; the veins over upper part of abdomen were dilated; the presence of ascites was not certain. At the operation the liver was found to be nodulated and hard, the spleen enlarged, and a moderate degree of ascites. The wound healed well. Ten months after

the operation the patient's medical attendant reported that the boy was doing well, and that there was no ascites; the dilated abdominal veins were much reduced in size.

The authors regard the success of this case as due to the early performance of the operation, undertaken, as it was, in the pre-ascitic stage of cirrhosis of the liver. H. Ito and K. Orni (*Deutsche Zeitschrift für Chirurgie*; *Glasgow Medical Journal*, July, 1902).

ATROPINE POISONING.

Case of supposed death from atropine poisoning. The patient was a very delicate-looking child, aged 10 months, who had suffered from convulsions most of this time. First of all, 3 drops of a 1-per-cent. solution of atropine were put in the eyes, which did not dilate the pupils fully. More atropine was applied, but during the thirty hours which elapsed from the first using of the atropine only 7 drops were used. The temperature rose to 105.6° F. The pulse was uncountable; and the respirations, 72; the skin was red, and the lips had a quantity of mucus about them. In this state the child died. Rockliffe (*British Medical Journal*, June 21, 1902).

ATROPINE POISONING WITH HIGH TEMPERATURE.

Case of atropine poisoning in which recovery took place after a very large dose, and which was accompanied by hyperpyrexia. The patient, who was a neurasthenic, took a solution containing 3 grains of atropine, a mixture that had been given her for the purpose of dilating the pupils precedent to an examination of the refraction. The patient was seen in less than twenty minutes after taking the drug, and strychnine, $\frac{1}{40}$ grain, was given hypodermically and re-

peated in fifteen minutes. The pulse was very small. One-tenth grain of apomorphine, repeated in fifteen minutes, was not followed by vomiting. Thirty minutes later $\frac{1}{8}$ grain of apomorphine was given, but there was no vomiting. An effort was made to pass the stomach-tube, but it could not be gotten beyond the pharynx. Pilocarpine failed to produce any effect and was discarded early in the case. The pulse was 160 shortly after taking the drug, and one hour later the axillary temperature was 105° F. Fifty minutes later it had reached 106° F., the pulse remaining the same. At this time a peculiar red rash appeared on the chest, and one hour later the temperature dropped to 103.5° F., and the pulse to 150. The catheter was passed, and four ounces of urine of the specific gravity of 1.106, containing a small amount of albumin, drawn. The atropine was found in the urine, which was withdrawn four hours after ingestion. One drop of this urine in the eye of a cat produced dilatation in five minutes. Some five hours after taking the drug the axillary temperature had fallen to 105.8° F., and by the following morning the temperature was normal; the pulse, 108; and the respirations practically normal. L. L. Beehler (*Journal of the American Medical Association*, April 26, 1902).

BLOOD-VESSELS, DISEASES OF.

The blood changes which may bring about thrombosis may be due to one or more of the following: A change in the corpuscles leading to their disintegration; an increase in the viscosity of the platelets; an increase in the fibrin ferment; and an increased liberation of the fibrin ferment. Micro-organisms or their toxins may have some influence on either the formation of platelets or the production of fibrin ferment. The local condi-

tions which seem to influence thrombosis may be grouped under two headings: Changes in the condition of the vessel-walls, and changes in the regular equable flow of the blood. A. P. Gould (*Lancet*, June 7, 1902).

BRONCHIAL GLANDS IN CHILDREN, SYMPTOMS DUE TO.

A peculiar paroxysmal cough, resembling whooping-cough without the crowing inspiration, is one of the earliest symptoms. The cough is very violent and exhausting, is more frequent at night, and may end in vomiting. The child is anæmic, and suffers from dyspnoea on slight exertion without demonstrable cardiac lesion. The appetite is capricious; the nutrition poor; the child is listless, sleeps badly at night, and is frequently hoarse. When the glands attain a large size they generally give rise to signs of compression of the neighboring organs, although it is an admitted fact that they sometimes become enormously enlarged without producing such symptoms, and they may only be discovered at the autopsy. Sometimes suspicions are aroused by increase in the size of the cervical glands, and it is especially significant when the supraclavicular glands are increased in size. In some cases there is dullness on percussion over the sternum and extending laterally on either side, and when the glands are very large there is dullness posteriorly in the interscapular space. The auscultatory sign described by Eustace Smith is frequently present in these cases. If a child in whom enlarged bronchial glands are present is made to bend the head back, so that the eyes look to the ceiling, a venous hum is heard over the manubrium sterni, which disappears again when the chin is depressed, and is caused by compression of the left innominate vein be-

tween the enlarged glands and the sternum. The author considers that whenever this murmur can be obtained it is almost definitely diagnostic. When the enlargement of the glands is still greater, there is marked distension of the cervical veins, œdema of the face, atelectasis of the lung, consequent dilatation of the right heart, and complete aphonia, due to compression of the recurrent laryngeal nerve. If the disease is allowed to advance and become general, there is the ever-present danger that intestinal tuberculosis or tuberculous meningitis or acute miliary tuberculosis will develop. The caseous glands may ulcerate into the surrounding structures,—into the pleura, pericardium, œsophagus, or trachea,—but in advanced cases of this sort the tuberculous process is not limited to the lymph-glands, but is associated with general tuberculosis. Friedländer (*Archives of Pediatrics*, April, 1902).

BRONCHITIS IN CHILDREN, ICHTHYOL IN CHRONIC.

Encouraged by the favorable reports on the use of ichthyol in tuberculosis, grippe, etc., W. B. Jennings (*St. Louis Medical and Surgical Journal*) began to use the drug in the common form of bronchitis in children which so often follows measles, whooping-cough, and acute infectious diseases in general. He gives the histories of eight cases demonstrating the good effects of ichthyol in the above-named conditions. It was administered in the following combination:—

℞ Ichthyol, gr. xxxij.
Glycerini,
Spt. aurantii, of each, ʒss.
Aqua, ad ʒij.—M.

The author gives the following conclusions: 1. The first dose often causes nausea, vomiting, but later the child grows

inured to the taste of ichthyol. 2. Children under one year of age do not take ichthyol well. 3. To avoid the unpleasant effects of ichthyol it should be given after meals. 4. Increasing doses are not necessary for good results in children. (*Merck's Archives*, July, 1902.)

CANCER AND TUBERCULOSIS.

Cancer and tuberculosis are so rarely associated in the same individual as to indicate a mutual antagonism between the two diseases. Autopsies of 281 cancer patients revealed only $1\frac{1}{4}$ per cent. of cases of tuberculosis. In the non-cancerous its frequency is nearly twenty times as great. The antagonism is not "diathetic," but is probably due to the chemical products of the two morbid processes, that of each being inimical to the other. There is a rather intimate relationship existing between the two diseases in certain families. The existence of either appears to favor the occurrence of the other, probably by a lowering of "resistive power" in the individuals of such families. The two diseases are not absolutely incompatible. They may very exceptionally exist in different parts of the same individual. Still, more rarely, they may exist in the same organ, and even in identically the same tissue. In the latter case it is probable that the primary disease was quiescent when the secondary one developed. In view of these apparent antagonisms, and the occasional retrocession of cancer after the use of tuberculin (though very doubtfully attributable to the latter), it would seem worth while in properly selected inoperable cases of cancer to try the systematic local injection of tuberculin in the cancerous tissue. G. W. McCaskey (*American Journal of the Medical Sciences*, July, 1902).

CARBUNCLE, THE ABORTIVE TREATMENT OF.

A 2-per-cent. carbolic-acid solution is employed. The injection is made with an ordinary hypodermic syringe, using a good-sized needle. The needle is entered at an angle of about forty-five degrees, and is so placed as to be about midway between the softened area in the center and the indurated margin. It is carried to the center of the infection just below the skin. In some cases a fistula leads to the suppurating focus, this marking the center of the carbuncle. One-half the contents of the syringe is injected, when the needle is withdrawn and again entered on the opposite side in the same manner. The remaining contents of the syringe when thrown into the already distended tissues commonly escapes along the track of the previous puncture, or the fistula if one exists. The injection is usually followed by some pain and a slight increase in the swelling. In a few days the carbuncle shrinks to a small, indurated mass, which soon disappears. A number of case histories are given, which show that the infection is curtailed. A. Bidder (*Deutsche medicinische Wochenschrift*, May 1 to 8, 1902).

CEREBRAL LOCALIZATION.

The known motor and sensory areas of the cerebral cortex are not sharply distinguishable one from another, as was at first supposed by Ferrier and his followers; nor are they, as separate foci, of such a character and of such relative unimportance as to render the action of the brain that of a single organ, for which Goltz and his school contended. There are separate motor and sensory centers within the cortex, but they are closely intermingled and are most intimately connected with one another. Both the motor and sensory areas have foci of

special intensity; the former in the central, the latter in the postero-parietal, lobules. While there may be a general intercommunication between all the sensory and motor elements of the cortex, there is the most intimate connection between the related sensory and motor cells which preside over corresponding parts of the body. The primary function of these cortical sensory-motor groups of cells as couplets is that of reflex action, like that of the sensory-motor reflex arcs of the various spinal-cord segments. This is shown by the morphological and embryological development of the entire cerebro-spinal axis, and it explains most satisfactorily the majority of the sensory-motor phenomena of physiological experimentation and clinico-pathological observation. Mentalization depends upon sensory-motor phenomena, and is therefore a function probably of the cortex, basal ganglia, and entire nervous system. Conscious mentalization is probably a function of the cerebral cortex alone. The relative importance of the cortical areas in the production of the mind is not yet determined. Inhibition is apparently the latest and highest differentiation in the functions of nervous matter, though it is itself a more or less latent function of all nervous substance, its degree of activity varying merely with the stage of nervous development. Inhibition is probably the special function of the forebrain, and therefore endows this part of the nervous system with a commanding influence over the rest of the nervous apparatus. The forebrain is therefore justly spoken of as pre-eminently the psychical center, though when exhaustively examined its inhibitory and reflex functions differ from the inhibitory and reflex functions of the ganglia lower down in the cerebro-spinal axis in degree rather than in kind. The inhibitory

function of the forebrain appears in the sphere of consciousness, and thus forms the basis of volition. It is pre-eminent in force and manifestation, but it does not preclude the exercise of the same function in a lesser degree by the lower parts of the nervous system upon parts still lower. The sensory-motor functions of the cerebral cortex are psychical in character, and influence the external parts of the body through the mediation of the cord and special ganglia, just as the highest of all the psychical centers, the forebrain and other association territories still unknown, influence the body through the sensory-motor cortex, special ganglia, and spinal cord. In fine, inhibition and reflex action, being the special property of all nervous matter, they are found, in varying gradation, as the functions of the most highly organized matter of the cortex, which therefore seems to be the special seat of mind, down to the most primitive ganglia of the spinal cord, which retain only the lowest degree or most elementary form of reflex irritability. L. H. Mettler (New York Medical Journal, June 28, 1902).

CHLOROFORM, ACCIDENTS DURING USE OF.

Laborde, at the Academy of Medicine, May 13, 1902, recalled, apropos of the recent discussion on chloroformization, the fact that the vapors of this drug are able, by their irritating action upon the nervous expansion within the nasopharyngeal mucous membrane, to determine a brusque arrest of the heart and respiration. This paralysis occurs, moreover, very easily if the subject be put under chloroform during a state of very great excitement. In order to prevent as far as possible this cause of death, which is always imminent, as soon as one approaches the nose of a sick person with a

compress soaked with chloroform, it is necessary to decrease the unnecessary excitement of the patient and the susceptibility of the terminal expansion of the fifth cranial nerves. The best means, according to the author, of accomplishing this purpose consists in giving a preventive injection of morphine and atropine. Irrigation of the nasal mucous membrane and of the pharynx and glottis with a concentrated solution of cocaine is also of great benefit in suppressing the susceptibility of these regions. It is also necessary to have care to keep the tongue forward in the mouth with special forceps during the entire duration of the chloroformization, thus avoiding a sliding of this organ backward over the orifice of the glottis, thereby provoking asphyxia, and being ready to carry out rhythmical traction on this organ in case unfavorable symptoms arise. (Medical News, July 5, 1902.)

CRETINISM, SPORADIC.

Cretinism is relatively much more frequent in children than was formerly supposed. It passes oftentimes unrecognized. Koplik has pleaded most earnestly for its recognition. Heredity seems to be a factor in the adult form, but this has not been determined in the child. There is a growing opinion as to its infectious nature, but no very positive data have been obtained. The interdependence of nervous control over secretion is recognized as necessary to healthy functioning, but it is not certain that disorder of such control is the cause. The process is a slow delay of the bony development of the body and a consequent dwarfism. (Englemann.)

The importance of combining the different glands in the treatment emphasized. Many of the unsatisfactory results of glandular treatment are because

the case is treated in only one direction. After having seen that a single ductless gland has been given without results a combination with other glands should be made. As a rule, thyroid feeding will be sufficient for myxœdematous conditions. Another point is a shortening of the cranium, producing, as a result, a synchondrosis of the bones. Many of these are due to rickets which runs its course before birth. When the child is born there is a shortening of the bones at the base of the cranium because of the ossification of the occipital and sphenoid. The cases that have a short base of the cranium will be improved the least. (A. Jacobi.)

The combination of the pituitary with the thyroid showed quite a difference in the growth of the patient. Englemann (Medical News, June 21, 1902).

DIABETES, EUCALYPTUS IN THE TREATMENT OF.

It is well known that the virtues claimed for the trees of the Australian blue-gum order were primarily ascribed to eucalyptus and the other trees of the species by the native tribes. The sawdust has great reputation as a dressing for wounds; the bark, well bruised and beaten, is given in small quantities for intestinal worms; and the tincture has long been held of great service as a stimulating expectorant. The especial value of the eucalyptus-tree is in reclaiming marshy districts, for it is well known that the roots absorb an enormous quantity of water. Owing to this fact it was long ago observed that there was a gradual disappearance of mosquitoes from their habitats in which this tree was grown, and it was also found (although there was no connection apparent in the minds of those who observed this fact) that malarious districts were rendered very much

less deadly when eucalyptus-trees were grown.

The literature contains a great number of claims for the specific value of eucalyptus in a variety of conditions, but pharmacologists assure us that the chief therapeutic value is in its slight antipyretic effect, as a carminative, and as an expectorant. Locally we know that it is irritating, possessing some slight anæsthetic and antiseptic properties. Recently, however, eucalyptus has been recommended in the treatment of diabetes mellitus by Mr. A. G. Faulds, of Glasgow. In a limited number of cases he has found that eucalyptus, in the form of an infusion, has caused a marked lessening and even disappearance of the glycosuria. He observed that the effect of a fresh, warm infusion of the leaves upon the glycosuria was much more marked than if the drug were administered in any other way. He also states that in his opinion it is in the incipient cases that this treatment will bear the best fruits. Mr. Fauld's paper, which appeared in the May number of the Glasgow Medical Journal, is rather in the form of a clinical note in which he records his experience in a limited number of cases, and he by no means holds the drug to be a specific. It puzzles us somewhat to account rationally for this effect, for similar instances of the action of eucalyptus on bodily metabolism are wanting. This particular employment of the remedy is based upon empiricism alone, and, while this method is no doubt of value, it is probable that, should a cure for diabetes be found, it will be when the precise nature of the glycosuria is known and when the therapeutic indications to be met have been found present in a particular drug by pharmacological methods. Editorial (Therapeutic Monthly, June, 1902).

DIARRHŒA, SUMMER, IN CHILDREN.

Recent contributions to the subject of summer diarrhœas in children show only unimportant additions to our knowledge, but they do serve good purpose in emphasizing the preventable and curable characteristics of this common ailment, which so greatly raises in summer the mortality-rate of young children. The etiology involves conditions of both the seed and the soil. As Heiman (*Archives of Pediatrics*, June, 1902) says, humidity and heat seem to directly favor gastric and intestinal putrefactions without any single bacterium being responsible. These same atmospheric conditions quite generally give rise to another factor, namely: a lowered resistance of the individual. Holt gives the most important predisposing cause as chronic indigestion arising from overfeeding, too frequent feeding, and habitual use of improper food.

Prophylaxis of the annual epidemic of children's diarrhœas involves problems of State medicine, public charities, and personal hygiene. Sanitary surroundings for the poor, summer outings for the sake of purer air, beneficent control of the public food-supply, especially of the milk-supply—all these are needed for the prevention of this disease in our cities. Attention to cleanliness of the food-containers and of the child itself, to proper out-door life, and to proper feeding is especially needed everywhere at this season. Holt suggests the excellent rule of cutting down the food and increasing the amount of water, boiled water, during the days of excessive heat. Young infants artificially fed should have each meal diminished at least one-third, making up the deficiency with boiled water. Water should also be given between meals. The knowledge that the disease

is altogether preventable ought to stimulate effort in these various directions.

The disorder, once set in, is yet generally curable, and some measures to that end may be fairly classed as life-saving. Kerley (*Archives of Pediatrics*, June, 1902) says that since the contents of the intestinal tract, and not the structure of the latter, is at fault, our clear indication is to remove immediately as much of the contents as is possible. Castor-oil is best, or, if there be vomiting, repeated small doses of calomel: $\frac{1}{20}$ or $\frac{1}{10}$ grain until 1 grain is taken, for a child one year old. Then strict attention should be given to the diet. In severe cases all food should be withdrawn for twelve to twenty-four hours. In all cases milk should be forbidden entirely; there is no use temporizing with diluted or sterilized milk; it is all a good culture-medium for pathogenic bacteria. Plenty of boiled water should be given. The best substitute diet is carbohydrates, particularly barley and rice properly prepared. Egg-albumin, which most pediatricists recommend, Kerley believes to be a possible cause of the fever, which in many cases fed on it he has seen running high. He thinks that Hutchinson is correct in asserting that when there is fever the system is already flooded with the products of nitrogenous metabolism, and that we should not add to this by our diet. Milk is gradually to be resumed only during convalescence. Cold sponging is the best remedy for the fever. If there are more than four or five stools a day subnitrate of bismuth, 10 to 20 grains every one or two hours, should be given. Opium should always be used with great caution and only if the diarrhœa is not controlled in other ways. If the stools are frequent and have mucus and blood mixed with them, it is best to irrigate the colon with normal saline solution

at 70°-110° F., according to whether an antipyretic or a stimulant is needed.

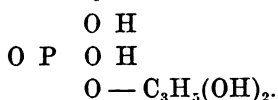
The above are the salient points which one should have well in mind for prevention and treatment. Details are best found in the various excellent works on diseases of children. For a general proposition, Kerley suggests that the most practicable way to reduce mortality from diarrhœal disease is to tell mothers to stop milk and give castor-oil at once whenever there is any sign of diarrhœal trouble in children during hot weather. Editorial (Journal of the American Medical Association, July 5, 1902).

GALL-BLADDER, SURGERY OF.

A review of forty-eight cases suggests that the diagnosis of disease of the gall-bladder and of gall-stones requires further study and observation. The classical symptoms must be supplemented in order to be sufficient as a basis for diagnosis. It is not wise to operate during the acute attack of cholecystitis. Patients much reduced by long-continued suffering do not bear well prolonged operations on the gall-bladder and ducts. Robson's observation that patients with carcinoma of intra-abdominal organs do not bear gall-bladder operations well has been borne out by the writer's experience. If the operation cannot be postponed in presence of extreme jaundice, it should be confined to simple drainage of the gall-bladder. A. J. Ochsner (Annals of Surgery, June, 1902).

GLYCEROPHOSPHATES.

Glycerinophosphoric acid is chemically the glycerin ester of phosphoric acid. It is represented by the formula:—



The neutral salts are most generally

used, and are quite stable. Thus, the salts of sodium, potassium, calcium, lithium, iron, and magnesia, as well as of quinine and strychnine, have been prepared and medicinally employed. Physiologically, the distinctive features of all these salts lie in the properties of glycerophosphoric acid. Lecithin is the basis of cell formation, especially the glycerophosphoric acid of lecithin, which is all important in synthesis of protonucleins. It is abundant in brain and nerve tissue, egg-yolk, blood, and spermatozoa. Nucleinic acid, the principal component of protonucleins, is an organic phosphoric acid, built up on glycerophosphoric acid. The neutral salts of glycerophosphoric acid are directly assimilable, and have a remarkable effect upon nutrition, since the acid represents chemically exactly that form in which phosphorus is taken up into the human system.

Physiological Action.—1. It accelerates metabolism generally, both as regards organic and inorganic substance. 2. It accelerates chiefly the nitrogenous exchanges, and favors the assimilation of albuminoid substances, increasing the excretion of nitrogen. 3. It does not greatly influence the formation of uric acid, but the increase in the nitrogenous elimination often lowers the proportion of uric acid in urea. 4. It acts on the sulphur metabolism, increasing the oxidation of the broken-up sulphur products. 5. It has no marked effect on intestinal fermentation. 6. It increases elimination of sodium chloride, and hence this corresponds with the clinical fact of improved appetite. 7. It favors the assimilation of the phosphates in the food by the nervous system, exerting an economic action by saving up combined phosphorus. 8. It increases the change of osseous substance without materially influencing those of phosphorus.

Therapeutics.—In rachitis the glycerophosphates of calcium and magnesium have almost a specific effect. They increase nutritive activity of the organism, aid in assimilation of all foodstuffs, and are themselves a food. Effects are shown by increase of body-weight and normal growth of bones of head, limbs, and teeth. In exhaustion of the nervous system and neurotic complications of rickets they gave most striking results. Their exhibition to the mother during pregnancy and lactation has had a most marked effect upon the development of the children. In phosphaturia, gout, and uric-acid diathesis, lithium glycerophosphate or alkaline glycerophosphates with lithium have given excellent results. As much as 50 grains daily of this organic lithium can be given without gastro-intestinal disturbances. In anæmia and chlorosis glycerophosphate of iron has the advantages of other organic iron compounds, and furthermore acts pre-eminently as a builder of hæmoglobin. Other organic iron salts increase the number of red blood-cells more rapidly than the hæmoglobin percentage. In general neurasthenia and exhaustion of the nervous system, either by increased metabolic loss or by insufficient assimilation, the glycerophosphates are certainly indicated. In Addison's disease, diabetes, and osteomalacia nutrition is improved. No good effects have been observed in general paralysis of insane and mental diseases. Solutions of the glycerophosphates are compatible with nearly all active therapeutic agents. R. R. Weber (Therapeutic Monthly, June, 1902).

HAY FEVER.

A plan of treatment has been suggested by H. Holbrook Curtis (Medical News, July 7, 1900) which on account of

its simplicity alone is at least worthy of extended and impartial trial. This consists in the administration to patients who develop asthmatic symptoms on exposure to vegetable emanations, such as the pollen of various plants and the like, of a tincture or fluid extract of the especial exciting agent, in the hope thereby of conferring immunity. Observations were made especially with a tincture and a fluid extract of the pollen and the flowers of the rag-weed: *Ambrosia artemisiæfolia*. This method has been pursued in a considerable number of cases and the results must be considered at least encouraging. Following along the same line Drs. E. Fletcher Ingals (Journal of the American Medical Association, June 28, 1902) and John Edwin Rhodes employed in 20 cases of hay asthma a combination of equal parts of fluid extracts of rag-weed and golden-rod, using in connection local applications. Twelve, or 67 per cent., of the patients thus treated reported that they were relieved by the internal remedy, and 13, 72 per cent., believed that they were benefited by the spray. The absence of favorable results in some of the cases may be due, it is thought, to the fact that the pollen of other plants than those employed may have acted as the exciting factors of the disease. Although there may be some question as to whether the promise held out by the results cited will be realized, the plan of treatment proposed should at least receive a fair trial and be judged on its merits. In explanation of the manner in which such results are brought about it may be conceived that, by the circulation in the blood of certain principles, the susceptibility of the respiratory mucous membrane to their irritating influence is diminished, and the usual reaction, as manifested in the symptoms of hay asthma, does not take

place. Editorial (Journal of the American Medical Association, July 12, 1902).

HEART, SENSORY DISORDERS OF.

The different varieties of sensory cardiac disorders are not separated from each other by hard-and-fast lines, but pass one into another in insensible gradations. No two cases, moreover, ever present exactly the same group of symptoms.

Of the subjective symptoms, vague uneasiness is the most common; it is, indeed, quite frequently met with. It is often nothing more than an indefinite sense of discomfort about the chest, with no distinct localization and no particular characteristics. Also of frequent occurrence are sensations of numbness, or deadness, about the thorax and upper extremity, extremely vague in distribution, and far from definite in nature. Somewhat more distinct are feelings of cold or of heat, which patients also occasionally complain of. One of the most remarkable features is a sense of oppression.

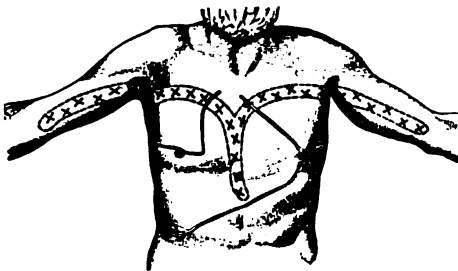


Fig. 1.—Man, aged 60, suffered from a feeling of constriction, with some paroxysms of pain beginning at the xiphoid cartilage, passing upward and then outward as far as the elbows. There was no very definite area of tenderness, but sensibility was exalted over the area marked by the crosses. The patient had arterial sclerosis, but no aortic valve disease, and the cause of the angina was obviously coronary disease. (*G. A. Gibson.*)

(Edinburgh Medical Journal.)

This particular symptom is commonly noticed, but it was never more vividly described than by Matthew Arnold, who, in one of his letters, refers to "the sense

of having a mountain on my chest." Closely allied to this variety of subjective disturbance is a feeling of constriction, or tightness, of the chest, which has been graphically portrayed by many sufferers.

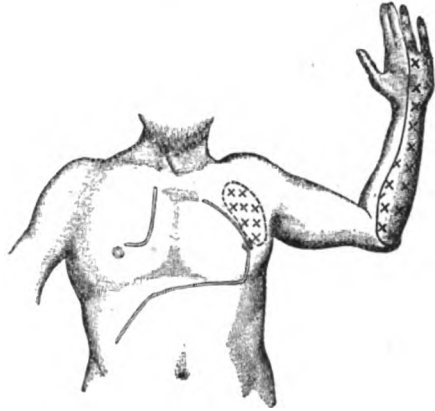


Fig. 2.—Man, aged 46, with paroxysms of angina, and constant tenderness over the areas marked by crosses. There was arterial degeneration, but no aortic valve lesion, and the diagnosis was coronary disease. Some years later he developed thoracic aneurism. (*G. A. Gibson.*)

(Edinburgh Medical Journal.)

These descriptions are dramatically summed up by Balfour, as being "a feeling as if a mailed hand grasped the chest in the cardiac area and squirted through its fingers flashes of excruciating agony." This utterance vividly brings forward the close association between the sensation of constriction and the feeling of pain. The pain, indeed, may surpass any other of which we have knowledge, for those who have experienced the most severe agony from disease elsewhere, and who have also passed through the anguish of angina pectoris, state that there is no comparison between them.

The distribution of the pain varies very widely. It is not infrequently confined entirely to the upper part of the chest, within the distribution of the first six thoracic segments of the cord. Its area is often confined even within the

præcordia. It is, in other instances, found at a little higher level, and to right or left of the cardiac region, more commonly the latter. But it manifests a well-known tendency to radiate in certain definite directions. Patients frequently complain of pain at one or other, or both, of the angles of the scapulæ. In other cases it may occupy one small spot at, or close to, the vertebral column; but more commonly the pain shoots upward to one or other of the shoulders, particularly the left. In many cases the painful sensations are experienced in the upper extremities, especially along the ulnar aspect of the arm and forearm,

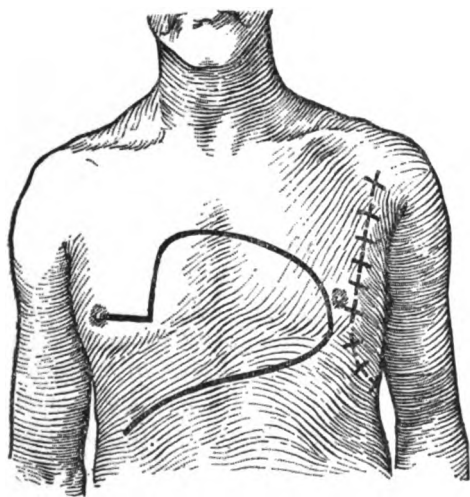


Fig. 3.—Man, aged 32, suffering from severe pain, accompanied by tenderness, and always much increased by exertion, along the area marked by crosses. The case was one of tobacco angina. Four ounces were smoked daily. (*G. A. Gibson.*)

(*Edinburgh Medical Journal.*)

while in a smaller proportion the sensory disturbances may even reach to the extreme limits of the lower extremities. As the pain occasionally shoots toward the inguinal region, and may seem to reach the scrotum, a suspicion of renal calculus has sometimes been entertained. Painful sensations are at times felt in

the neck and head, as Head has fully described, showing the implication, not only of the upper cervical, but also of the cranial, nerves. Occasionally, as was, indeed, observed by Heberden, the pain is only experienced in the arm. Sometimes the pain is felt in the epigastric region, and has at first caused the presumption of an attack of gastralgia. Not infrequently, when this is the case, a sensation of "globus," analogous to that experienced in hysteria, is complained of.

Over and above these disturbances, which fall under the definition of painful, are a few attendants of a somewhat different type. The sensation of faintness is often present, and may be only a feeling of sinking, or it may actually amount to a consciousness of the nearness of death.

This sense of impending death dwarfs all other symptoms by its overwhelming character and stupendous importance. It is a conviction that the last enemy is near, and is, as a rule, free from craven fear to meet him. As a matter of fact, the state of mind in many instances might also be defined as a condition of animated expectancy.

But a sudden termination may take place in the total absence of the dreadful agony of severe cardiac pain. Without any suffering—indeed, with no subjective disturbance of any kind—death may occur. This is one form of the *angina sine dolore* of Gairdner. To pass away under such conditions may well be accounted worthy of the ancient adage: "*Sic sine morte mori.*"

It can assuredly be no matter for surprise that those who are in the toils of an affection liable to assume such tremendous proportions should have many other accompaniments to their sufferings. Several cerebral disturbances have a tendency to make their appearance. Dis-

trressing giddiness is by no means rare as a concomitant of anginous seizures, while dimness of sight, dullness of hearing, or even visual and auditory hallucinations may occur. Instead of the mental anguish—*angor animi*—a more merciful visitor may come to the patient in the guise of diminished consciousness, or the mental powers may be disturbed by delusions. It is probable that this group of symptoms has its origin in a failure of nutrition of the brain, and that, although associated with the seizure, it is not closely connected with it.

The aspect presented by the patient during a paroxysm varies within wide limits. The attitude may be that which has for long been held up in our schools as the type: the body fixed in one position, whether standing or sitting, and slightly bent forward in an attempt to relieve the feeling of oppression. But, to anyone who has been called upon to witness many instances of this affection, it is well known that such is far from being the commonest attitude. Much more often there is a greater degree of action in the scene. The sufferer not infrequently assumes the position of a man who, by straining every muscle, attempts to shake off an incubus. Instead of this, the patient may pace the floor in the effort to find relief; he may rock backward and forward or from side to side while in a sitting posture; or he may seek to assuage his torments by assuming various forms of recumbent posture. There is, in short, no characteristic attitude in the affection.

It is even so as regards the expression of the face. Although in almost every instance the lineaments reflect a painful condition, yet the varieties of countenance presented by patients are manifold. In one case there may be the expression of fearful anticipation; in another, of

resigned acquiescence in whatever the future may have in store.

The tint of the skin is far from uniform. In a considerable proportion of cases of this affection there is a deathly pallor, but, speaking simply from my own experience, it is quite common to find the surface suffused by a bright flush, while in some of the most serious examples there is profound cyanosis. Its moisture is also of variable quantity; at times the skin is absolutely dry, and, again, in other instances, it is covered by abundant perspiration.

Closely associated as many attacks of angina pectoris are with gastric distension, it is not difficult to understand why hiccough and eructation should take place. A sensation analogous to the globus of hysteria has been mentioned under the purely subjective disorders. Intestinal flatulence rarely assumes noteworthy proportions, yet it at times attains a magnitude worthy of being termed meteorism.

The condition of the respiration has long been known to be altered during paroxysms of the affection. Sometimes the patient may seem to forget to breathe, and, as in the case of John Hunter, to breathe only by an effort of the will. Again, breathlessness may be prominent, and hurried breathing may be constantly present. Sometimes the patient almost seems as if afraid to breathe in fear of increasing the sufferings, but it is a constant observation that, when a long breath is drawn in, it seems to afford a certain amount of relief. The voice is sometimes feeble, or aphonia may be one of the striking symptoms, and this seems to the writer to be most frequently the case in those instances presenting such symptoms as hiccough and dysphagia.

The heart-beat and pulse-wave have

formed subjects of controversy for a long time, and there can be no doubt that the essential cause of the differences of opinion which have occurred is to be sought in the fact that no two instances of the disease present exactly the same features with regard to the circulation. The pulse sometimes exhibits a very considerable increase of pressure. That fact is freely admitted by all observers. When this is the case, the arterial pulse gives every feature that we are accustomed to find as the result of high pressure. It is regular in rhythm, infrequent in rate, and has sustained resistance. But it is at least as common to find an arterial pulse absolutely the converse of this in every respect. Low pressure may be revealed by its ordinary features, yet it is more usual to find pulsation showing characters intermediate between those of high and low pressure. The pulse is very often, indeed, found to be one in which high pressure has obviously been present, but is failing. It may be perfectly regular, yet unduly frequent; and although the resistance on the first application of the finger seems to be considerable, yet it is found on analysis not to be sustained. Sphygmographic evidence very clearly proves that this is the case. While in most cases of organic angina pectoris the arteries show a certain degree of sclerosis, its extent is subject to great differences. In the various functional varieties of the affection the walls of the vessels may be practically healthy.

The appearances furnished by the condition of the heart are exactly parallel to those yielded by the arterial pulse. There is almost, if not quite, invariably some cardiac enlargement due to dilatation. The cardiac impulse may be forcible and sustained, but it is, on the whole, more likely to be feeble and rief, as is so common in dilatation.

Similarly, the heart-sounds undergo considerable variations. While in one case there may be a low-toned and long-continued first sound at the apex, it may be in all respects the opposite of this, and a short, slapping sound may be found there. In the majority of cases of organic angina pectoris the aortic second sound is accentuated, and it may considerably transcend in loudness the second sound in the pulmonary area. In many cases, however, attended by imminent cardiac failure, and in which the right ventricle is seriously implicated, the pulmonary second sound is much louder than that in the aortic area. It is unnecessary to add that in the various functional varieties the cardiac sounds may be approximately normal.

The renal secretion is often modified in a direction analogous to what is so often found in nervous affections. It is, especially after an attack, frequently found to be copious and pale, while disturbances, as regards control, may be observed. Retention of urine, more especially, is occasionally met with. It is not necessary to point out that, when some primary disease of the kidneys is present, or when they have suffered in consequence of the cardiac affection, characteristic results appear. In the anginous attacks, further, due to glycæmia, the urine reveals the presence of glucose.

The condition of the sensibility of the skin, tested objectively, has, in recent years, yielded most interesting results. The observations of Mackenzie and of Head have led to a new era in the investigation of the affection. Over considerable areas of the surface of the body, corresponding, with more or less accuracy, to the regions in which pain is subjectively felt, there is an exaggeration of sensibility. This hyperæsthesia is most commonly experienced over the upper

intercostal nerves, but it may be ascertained to be present over part of the neck and arm as well. The tenderness may be discovered by the application of varying degrees of pressure with a blunt or with a sharp instrument, or by gently pinching the skin with the finger and thumb. In some instances, after pain and tenderness have been present for a considerable time, the latter is succeeded by diminution of sensibility.

Occasional trophic effects result in consequence of the nervous disturbances. The skin is sometimes seen to be thin and wasted, and, in certain interesting instances, one of the most striking of which has been narrated by Eichhorst, wasting of the muscles, corresponding to the distribution of the ulnar nerve, was observed.

An essential point, ever to be kept in view in studying these various symptoms, is their paroxysmal character. There is nothing periodical in their appearance, and the paroxysms, whether induced by definite causes or appearing, so far as can be ascertained, without any exciting cause, are free from anything rhythmical.

It is necessary once more to emphasize the absurdity of the common phraseology, which would divide the affection into true and false. To use such phraseology is to assume that the group of symptoms is a definite disease, whereas the contrary is now universally recognized. G. A. Gibson (*Edinburgh Medical Journal*, July, 1902).

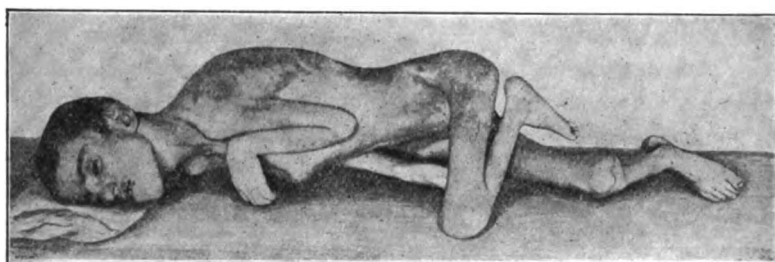
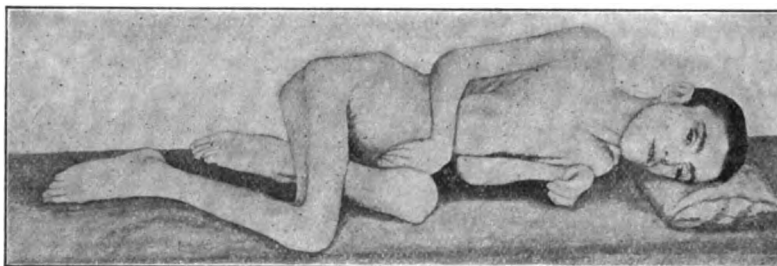
HYDROCEPHALUS, PARTIAL INTERNAL.

The patient, a boy, aged 19 years at the time of death, had had some headache once or twice a week, with vomiting, since childhood; but about six months before death the headaches became se-

vere, and cerebellar gait was observed. Dizziness was also experienced, especially when the patient laid on his back. This dizziness was probably the result of pressure of the distended cerebral ventricles on the cerebellum. Slight exophthalmos was observed. Distinct optic neuritis was present in each eye. The knee-jerks were exaggerated. Death occurred suddenly.

The skull was very thin: hardly thicker than a sheet of paper at the sides of the calvarium. The cerebral ventricles were much distended, but the fourth ventricle was of normal size. The aqueduct of Sylvius was entirely occluded when examined by the naked eye, but in microscopical sections a very small opening was found, which may have been absent during life. It is questionable whether any fluid passed through this opening during life. Small groups of ependymal cells were seen in several places, and these had evidently been separated from the ependymal lining by the proliferation of the neuralgia.

Oppenheim (*Monatshefte für Psychiatrie und Neurologie*, March, 1900) has described a case of myasthenic gravis pseudoparalytica in which he found bridging over of the aqueduct of Sylvius, and in some sections a third canal. Such anomalies of this region he believed had never previously been described. The occlusion in the case H. C., reported by the writer, must, he believes, be of the same character as the partial occlusion in Oppenheim's case, and was probably congenital or acquired early, on account of the history of headache and vomiting dating from childhood. The occlusion must have become complete about six months before the patient's death, when the symptoms became much more intense than they had been previously. The closure of the aqueduct of Sylvius re-



Unilateral internal hydrocephalus, causing bilateral contracture.
(Photographs taken after death.)



Basal aspect of brain from above case. The left lateral lobe of the cerebellum
is much smaller than the right. (W. G. Spiller.)

(American Journal of the Medical Sciences, July, 1902.)

sembles in the changes of tissue produced by it the condition often seen in the region of the central canal of the spinal cord.

The symptoms were exceedingly suggestive of cerebellar tumor, and in every case where a tumor of this portion of the brain is suspected the possibility of internal hydrocephalus should be borne in mind.

This is by no means the first case in which the symptoms of brain-tumor were caused by internal hydrocephalus. Byrom Bramwell (*Brain*, Spring, 1899) some years ago reported cases in which the characteristic symptoms of cerebellar tumor were present; but a distension of the ventricles, apparently the result of closure of the foramen of Magendie from localized meningitis, was found. W. G. Spiller (*American Journal of the Medical Sciences*, July, 1902).

HYSTERIA IN ANIMALS.

The study of hysteria, which, if only for the sake of accurate differential diagnosis in many diseases, is one of the most practical parts of medical education, bids fair to have some light thrown on it by the development of comparative medicine. In a short article in *La Nature*, Coupin cites from the experience of European veterinarians a number of cases which are convincing of the existence of typical cases of hysteria produced by physical or emotional shock in domestic animals and birds. Coupin quotes the report of Aruch, of Milan, on the case of a canine patient that once had been made ill by the departure of her master and on a later occasion stricken by seeing her mistress with a newborn babe. The dog developed dysphagia, cough, polyuria, alteration of voice and temper, progressive paralysis, aphonia, and finally was killed. An autopsy failed

to disclose recognizable lesions of the nervous system. Another striking case is cited from the practice of Dr. Hyger. A cat bitten by a dog acted as if paralyzed, dragging her hind-legs when she attempted to walk. The posterior third of the trunk, the hind-legs, and the tail were analgesic. Power to move the tail was lost. About two months after the accident a servant "of a curious turn of mind" threw the animal out of a window to see if a paralyzed cat with the usual feline dexterity could alight on its feet. The cat fell safely enough on all fours and then walked off quite cured of its paralysis. Another instance of a nervous affection, this time in a canary, being brought on by fear and shock is also taken from a report by Hyger. A cat leaped on the canary's cage, throwing the cage to the ground, but in nowise injuring the bird. After the accident the canary lay motionless on the floor of its cage and was finally revived by sprinkling cold water on it. Soon it was jumping about as usual, but although previously a fine singer, now the canary was quite dumb. At the end of six weeks the singing voice was recovered as suddenly as it had been lost. Coupin asserts that very many cases of hysteria are seen by experienced veterinary surgeons, cases especially of traumatic or emotional origin. Fear of reprimand, fear of objects such as locomotives and automobiles, and the shock from lightning striking the stable are among the immediate causes. These reports concerning nervous diseases in animals will serve as fine criticism on any tendency to regard cases of hysteria as necessarily involving a certain amount of malingering or willfulness. Occurring in animals, the condition certainly must be involuntary, since with them there can be no question of ulterior design to make one suspect

feigning. The observation of hysterical conditions in animals ought to prove a new point of departure for study by psychologists of the peculiar inhibition of the normal will-power which is recognized as a characteristic of hysteria. Then, too, the pathologist may, through the possibility of procuring for intimate study a nervous system affected by hysteria, be able to discover histopathological changes which many neurologists suspect as underlying the morbid functional conditions of that affection. Editorial (*Journal of the American Medical Association*, July 12, 1902).

LYSOL, DANGERS IN THE USE OF.

Series of experiments on rabbits with a view to determining more accurately the toxicity of lysol. The writer thinks the subject deserving of attention, because, in spite of its supposed non-poisonous character, a few cases occur every year where lysol has been found to produce symptoms of poisoning and even death, either when applied externally, used to irrigate the bowel or wash out the uterus, or taken inadvertently by the mouth. Details are given of a case occurring in Posen, in which 50 cubic centimeters of undiluted lysol were accidentally included in an enema. Unconsciousness followed, with stertorous breathing, feeble pulse, loss of reflexes, and rigidity of the extremities, and death occurred the same day. Introducing lysol into the large intestine of rabbits, the writer found that a dose of 0.224 cubic centimeter per kilogramme of body-weight produced slight clonic convulsions, which were intensified by larger doses; 0.566 cubic centimeter produced unconsciousness; and 1 cubic centimeter, death. The symptoms depended on the total dose, and did not vary with differences in its concentration. Erosions,

more or less extensive, were found in the intestinal mucosa. When the lysol was introduced into the stomach the same effects were produced, but a larger dose was required; 1.16 cubic centimeters per kilogramme failed to produce any toxic symptoms; and 1.8 cubic centimeters was the minimum necessary for a fatal result. Comparing the post-mortem appearances found in the patient who died after administration of the enema with those produced in the rabbits experimented upon, it was found that there was a correspondence in the intestinal lesions. Linck (*Arbeiten aus dem pathol. anat. Inst. in Posen*, 1901; *British Medical Journal*, June 21, 1902).

MAMMÆ AND THE GENITALS, REFLEX RELATIONS BETWEEN.

The writer verified Scanzoni's observations that premature labor may be induced by sucking the nipples. He excited the nipples, by a simple exhaustor working like a cupping glass, in three cases, and thinks that with very sensitive women this method will usually succeed. In observations on a hundred puerperal women he found that, by putting the child to the breast, a uterine contraction was excited in from two to four minutes after the child began to suck. In half a minute the uterus is stony hard, and remains so for two or three minutes before passing back to its original condition. If the sucking is continued, the next pain occurs in about five minutes. With the progress of involution the contractions are less marked, but can still be observed at the eighth day. To test the influence of nervous supply on the mammary gland, the author isolated the mammæ by dividing the long thoracic nerves and intercostals in rabbits and guinea-pigs, and found that it made no apparent difference in their function.

This is in accordance with the result of Ribbert's transplantation of mammary glands. As regards uterine contractions, experimental excitement of the nipples gave negative results in rabbits. Pfister (*Beiträge zur Geburts. und Gynäkologie*, vol. v; Glasgow Med. Jour., July, 1902).

MANICURING, DANGER IN.

The recent death of a prominent society man of Baltimore from infection said to have resulted from manicuring operations performed in Philadelphia has caused wide discussion among the manicurists in this city. They believe that, if the public knew the danger, better conditions would be enforced and the business benefited; hence there was no hesitancy in discussing the case. Some claim that every stage in manicuring and chiropody is performed under antiseptic precautions. It is also claimed that the vanity of patients in demanding a "full moon" on the nail, results in forcing back and cutting the cuticle, which opens the way for infection. First-class manicurists usually refuse to do this, preferring, if necessary, to lose a patron. Editorial (*Medical News*, July 5, 1902).

MELANCHOLIA, CODEINE IN.

Certain classes of mental and nervous agitation that appear to be particularly benefited by codeine. Codeine phosphate was the substance used, especially with good results, in melancholia with acute feelings of misery, epigastric pains, shallow respiration, feeble secretions, and general bodily depression. Careful observations were made of its effects on 15 patients, namely: 5 males, 4 single and 6 married women. The ages of the patients varied from 19 to 76 years, the following being a few selected cases: Woman, aged 76 years,

senile melancholia, treated with marked benefit; man, aged 50 years, melancholia with insomnia, much improved; man, aged 32 years, melancholia with self-accusations, great improvement; man, aged 26 years, melancholia with mutism and delusions of persecution, greatly improved; single woman, aged 29 years, with delusions of persecution, hallucinations of sight and hearing, zoöpsia, and hysteria, no effect; man, aged 21 years, hebephrenia (exaltation and mental confusion), with sexual excitement, no improvement. From careful analysis of the cases and results the following conclusions are drawn: (1) marked improvement follows the treatment with codeine phosphate when there is melancholia with anguish and great moral suffering (*douleur morale*) and corresponding disturbance of general sensibility; (2) such patients were rendered bright, cheerful, and happy, and sleep was obtained; (3) the action of codeine on the bowels was not nearly so constipating as opium or morphine, while the respirations were increased in depth; (4) the dose of the codeine phosphate was 4 to 6 centigrammes hypodermically, or 6 to 8 by the mouth (excessive dosage produced headache, nausea, vertigo, tachycardia, and myosis of the pupils); (5) the drug was contraindicated in all cases of intense excitement, including simple mania, as it increased such disorders. Jules Clausse (*Thèse de Paris*, 1902; *British Medical Journal*, June 21, 1902).

MENTAL FACULTIES AND THE LEFT PREFRONTAL LOBE.

That the mental faculties largely reside in the prefrontal lobe of the left side is suggested by the writer's experience in the treatment of injuries of the front part of the brain. The literature

of injury to the frontal lobes may be divided into three groups: (1) atrophies; (2) pistol-shot wounds; (3) abscesses and tumors. Of the cases of pistol-shot wounds, which lend themselves to accurate analysis, it was found that in 26, where the cerebral wound was confined to the right side, there was no symptoms of mental or emotional disturbance, aside from the stupor or delirium that is characteristic of general contusion. Of 32 cases in which the ball traversed the right frontal lobe, in 8 there was no means of determining the mental condition. In 13 the manifestations of mental derangement were distinctly evident. In several of the others the mental condition was not specifically mentioned, and the histories were otherwise deficient. There were still a limited number of cases in which, with a wound of the left lobe, the mental faculties were said to have been unimpaired. Some of these cases are stated to have exhibited some form or degree of aphasia, and in nearly or quite all of them the lesion was in the posterior part of the lobe. The analysis tends to show, as do tumors and abscesses of the frontal lobes, that emotional and intellectual disturbances are symptomatic not only in a lesion of the frontal lobe, but also in its anterior and central portions. C. Phelps (*American Journal of the Medical Sciences*, May, 1902).

MITRAL STENOSIS, FUNCTIONAL PULMONARY INCOMPETENCE AND DILATATION AND ATHEROMA OF THE PULMONARY ARTERIES AS COMPLICATIONS OF.

Conclusions based on a detailed analysis of 16 cases: As a result of extreme mitral stenosis there is enormously increased tension produced in the pulmonary arteries. As a result of this in-

creased pulmonary tension, the smaller branches of the pulmonary arteries in the lungs become dilated, hypertrophied, and atheromatous. As a further result of this increased tension in the pulmonary artery, the main artery may become dilated, and so may its orifice also. As a result of this dilatation of the pulmonary artery and its orifice, a reflux of blood may occur into the right ventricle through functional incompetence of the valves.

The chief clinical indication of this functional pulmonary incompetence is the occurrence of an early diastolic murmur on the left side of the upper part of the chest, and that the point where the bruit is best and most frequently heard is in the third left intercostal space, midway between the left border of the sternum and the left nipple-line. Although there may be this clinical evidence of pulmonary incompetence, the post-mortem may fail to show any incompetence of the valves or dilatation of the pulmonary artery. The fact of there being no actual post-mortem evidence of regurgitation in some of the cases is no proof that the incompetence did not exist during life. The explanation of the last condition is as follows: The elasticity of the pulmonary artery has not been permanently injured by the increased pulmonary tension, and as soon as the tension is relieved the vessel contracts to its normal size. Bryant (*Guy's Hospital Reports*, vol. lv; *Practitioner*, July, 1902).

NASAL SEPTUM, SARCOMA OF.

Nasal sarcoma is of moderately frequent occurrence, and is more often found than epithelioma or carcinoma: histopathologically it varies greatly, and its site of predilection is the septum. It rarely develops as such, but

most frequently represents a metamorphosis of a benign connective-tissue tumor, due probably to repeated traumatism and to the inflammations to which this region is subject. Histological diagnosis, while not entirely exact, is based upon multiplication of connective-tissue cells and their special grouping. Errors in clinical diagnosis frequently occur, these neoplasms often remaining localized, especially when they represent a metamorphosis of a pre-existing connective-tissue tumor. Ready bleeding, a wide base of attachment, and irregular ulcerated surface should put the physician on guard and suggest prompt surgical intervention. Absence of recurrence, even when operation has not been very extensive, does not render the histological diagnosis doubtful, but rather indicates that the tumor has been extirpated before invasion of sarcomatous cells has passed beyond the boundary between the healthy tissue and the pre-existing benign neoplasia. The sarcomatous variety of angioma is rare, and requires the exercise of great caution, owing to the severe hæmorrhage which is apt to occur during operation. J. Nardi (*Archivio Ital. d. Laringol.*, vol. xxii, fasc. 2, 1902).

NEURALGIA, FACIAL.

There are three methods of relief in cases of facial neuralgia: (1) division of the nerve-trunk or branch that gives pain; (2) excision of the ganglion of Gasser; (3) excision of a portion of the offending nerves. The last operation is preferred, as shown by a case attended with marked improvement. E. M. Magruder (*Medical News*, June 21, 1902).

NEWBORN, BLOOD-COUNTS IN THE.

Series of examinations of the blood of the newborn in the Glasgow Mater-

nity Hospital. The author's conclusions are as follows:—

1. The red corpuscles in the blood of the infant at birth are relatively more numerous than in the adult. During the first forty-eight hours the blood becomes more concentrated and the child loses weight; from that time to the tenth day the red corpuscles increase and the child gains weight. The blood shows variations in shape and deficiency in rouleaux formation. Nucleated red corpuscles are present at birth: normoblasts and megaloblasts. They are found as late as the ninth day.
2. The hæmoglobin is relatively high at birth, and, during the few succeeding days, usually over 100 per cent., the individual cells being richer than in the adult.
3. The white corpuscles at birth are two or three times as numerous per cubic millimeter as in the adult. They increase in numbers during the first few days from the effects of digestion; by the tenth day these are less numerous than at birth. Digestion leucocytosis is well marked. The lymphocyte percentage usually exceeds that of the neutrophiles at birth. After the first feeding there is a relative and absolute increase in the neutrophiles. In the second week this passes off, and the lymphocytes are increased as at birth. The percentage of eosinophiles is greater than in the adult blood. John Aitken (*Journal of Obstetrics and Gynæcology of the British Empire*, April, 1902).

NEWER DRUGS.

The following preparations are recommended by the writers after clinical use:—

Silver vitellin is offered as a substitute for silver nitrate. It is a dark-brown powder, claimed to contain 30 per cent. of silver; is very soluble in

water; does not precipitate with sodium chloride or albumin; and possesses a strong, penetrating action. As an antigonorrhœal it may be used in as high a strength as 5 per cent. It has been used in a number of cases with apparently good results.

A compound claimed to contain 45 per cent. of bismuth, 15 per cent. of iodine, and 3 per cent. of formaldehyde is offered as an ideal dry dressing. Chemically it is claimed to be mono-iodo - dibismuth - methylene - dicresotinate, and is a pink, impalpable powder, odorless, tasteless, and insoluble. On coming in contact with the wound iodine and formaldehyde are said to be liberated.

The third compound is an organic iron preparation, with the provisional name iron vitellin. It is a red powder, freely and completely soluble in water, forming a clear-red solution, neutral in reaction, odorless and tasteless.

The fourth compound is offered as an intestinal astringent and antiseptic. It is chemically a hexa-methylene-tetramine-tannin proteid, and is claimed to contain 50 per cent. of tannic acid and 10 per cent. of hexa-methylene-tetramine (formin) in definite chemical combination. The authors claim for it that the tannic acid is liberated only when the drug reaches the intestine. Physically, it is a yellowish brown, fine powder, odorless and tasteless. Dose: about 15 grains. A. C. Barnes and Hermann Hille (*Transactions of the American Therapeutic Society; Merck's Archives*, July, 1902).

OPIUM POISONING.

The patient, a Hindoo, aged 18 years, who had been taking opium for several months, to relieve pain, using every

morning and evening 10 grains of bazaar opium, took one morning, with his food, 288 grains. He became unconscious, and two hours afterward was brought to the hospital exhibiting stertorous breathing, deeply injected conjunctiva, small and rapid pulse, and minute pupils. The stomach was well washed with tepid water, then with a dilute solution of potassium permanganate, and, finally, a solution of this salt, 2 grains to 3 fluidounces, was introduced and allowed to remain. Five minims of a 5-per-cent. atropine solution were injected hypodermically. The patient was kept moving, frequently doused with cold water. Electrical stimulation was applied at intervals and strong coffee and milk were administered. The nature of the electrical stimulation is not indicated, except that it is said the galvanic battery was applied. If the coffee and milk were given by the mouth, the potassium permanganate would be of little use. At 6 P.M., about ten hours after taking the poison, twenty ounces of turbid, dark-colored urine were drawn off. The following morning he was confused and drowsy, but conscious. He was well in a few days. F. J. Daly (*Indian Medical Gazette*, March, 1902).

PNEUMONIA, TREATMENT OF.

Statistics show that in all civilized countries pneumonia has been increasingly prevalent and fatal. Who is responsible for this: the physician, the patient, or the disease?

Prior to 1818, when Laennec made it possible to clinically differentiate the thoracic affections, pneumonia was used to name all of the severe acute inflammations of the pleuræ, lungs, and bronchi. In the middle of the last century no difference was made in the treatment of

acute croupous pneumonia and pleurisy, although their clinical differences were recognized.

Bleeding.—In the thirties and for twenty years thereafter it was advised that blood be abstracted whenever respiration was excessively rapid and labored and the temperature high. A fall in temperature was thus effected, and breathing became slower and deeper and often the mind clearer. If bleeding was practiced early in the stage of congestion, the malady could be checked in its progress, and convalescence established by the third day. But as crisis may occur upon the third day and complete recovery follow, it is doubtful if the disease has ever been “jugulated” at any stage of its progress.

Between 1840 and 1855 it was regarded as not useful when pneumonia attacked those who were weak and debilitated, and since 1860 venesection has rarely been resorted to. Unquestionably a moderate bleeding, when a large area of lung-tissue is congested, but not yet hepatized, is safe in full-blooded and robust individuals, and it will add to their comfort, lessen pain, lower temperature, slow respiration, and often unload an overburdened right heart. Occasionally to-day, under these circumstances, bleeding can be used with distinct benefit. Last winter an accidental hæmorrhage from one of the writer's patients showed him its utility in later stages of the disease. The patient had both typhoid fever and pneumonia of a severe type. On three different occasions, about three days apart, he became semicomatose and deeply cyanotic, because of œdema of the lungs. All his symptoms pointed to a probable loss of life within a few hours, when on each occasion a spontaneous and copious hæmorrhage occurred from the bowels. At once after each hæmorrhage

improvement set in, cyanosis disappeared, the physical signs of pulmonary œdema disappeared, and consciousness returned. Ultimately he recovered from the combined attack of these maladies.

Although bleeding can be resorted to with benefit in pneumonia, it has been abundantly shown not to shorten the course of the disease or to influence the vitality of the germs which cause it. It is most useful in order to unload a dilated right heart. Therefore, when the jugulars are distended and the pulse is small, comparatively soft, and increasing in rapidity; when the second pulmonary sound over the heart is strongly accentuated or the lungs are filling with the coarse, moist râles of œdema, it may be resorted to with hopefulness.

Tartar Emetic.—To combat congestion and inflammation Rasori urged the employment of large doses of tartar emetic: as much as 8, 10, and 12 grammes per day for several days in succession. After the first dose a tolerance of it was usually acquired. That it lessened the rapid respiration, softened the pulse, and quieted the patient was unquestionably true. But it also irritated the stomach and intestines, and caused depression—almost a condition of collapse—and a weaker heart. The enormous doses advised by Rasori were not long used.

Blistering and Poulticing.—While bleeding and tartar emetic were in vogue, blistering and poulticing were also regarded as important adjuvants to treatment. Blisters, it is true, are particularly efficacious for the relief of the pleuritic pains which accompany pneumonia, but neither they nor fomentations materially alter the course of the disease.

Poultices which envelop the chest render respiration easier and coughing less frequent. These effects are best

observed in children, to whom they can be most successfully applied.

Veratrum Viride.—In this country about the time bleeding ceased to be generally practiced *veratrum viride* began to be used. It was found to diminish the tension of the pulse, lessen its rate, lower bodily temperature, and provoke perspiration. After some years of trial clinicians concluded that it, too, was adapted only to sthenic cases and to the stage of congestion. Numerous studies of its physiological action in the seventies and since then have shown that it affects both the nerves and muscle-fibers of the heart, stimulating the inhibitory nerve and paralyzing the muscle. There is produced by it both vasomotor and cardiac weakness and ultimately paralysis. It is therefore not a safe drug to use in pneumonia, when the preservation of cardiac strength is all important. However, it will contribute to the comfort of patients, and can be employed without hazard when they are young and vigorous and when the area of lung-tissue involved is small.

Calomel.—Calomel has been used in large doses to combat pneumonia. But it has fallen into disuse to-day, for it does not shorten the course of the malady, contribute to the comfort of the patient, or lessen the mortality. However, it can be employed with benefit as a laxative at the beginning of an attack or during its course.

Inutility of These Methods.—That these various measures did not modify the course of pneumonia or affect the rate of mortality began to be appreciated about 1845, when the fact that as low a mortality was observed in the homœopathic hospital at Vienna as in institutions where bleeding, blistering, and tartar emetic were used. This induced Skodd to try other methods of

treatment, while the English-speaking people were awakened to the inutility of the prevailing treatment by the writings of Bennett, of Edinburgh, in 1848.

Modern Treatment.—The protective or defensive treatment of to-day recognizes the fact that a patient's life is endangered: (1) by the toxins produced by the *diplococcus lanceolatus*; (2) by the rapid involvement of large areas of lung-tissue in inflammation, which makes them functionally useless; (3) by the sudden distension of the right ventricle to the point of paralysis by obstruction of the pulmonary vessels; (4) by œdema of the lungs, the result of a weak heart, enfeebled respiration, and probably of toxins which excite œdema in tissues no longer possessing the vitality required to develop the changes characteristic of inflammation.

As yet, no specific has been found to combat pneumonia or to protect those who are exposed to it. Nor can we prevent the extension of the lung-lesion from one point to another. We know that, so long as only a part of one lung is involved in a person who is young and vigorous, recovery is the rule, and little medication is needed.

To prevent the accumulation of toxins the organs of elimination must be kept active. We do not know with certainty whether the toxins of pneumonia escape through other channels than the kidneys. However, to promote early and full evacuations from the bowels undoubtedly contributes to the comfort and well-being of patients. Therefore a purge should be given at the onset of the trouble. It may consist of calomel or a saline, or both. The bowels should be moved regularly thereafter and kept as free from putrefying matter as possible. Digestion is always slow and imperfect in pneumonia. Consequently,

food, if taken in considerable quantities or in any except the most digestible form, will undergo abnormal fermentation in the gastro-intestinal tract, and produce toxins which will add to the irritation of the kidneys, already often affected by the toxins peculiar to pneumonia. Furthermore, they produce a nervous depression and lack of tone which under other circumstances we know so well as a "bilious state." Therefore it is essential that only the most digestible foods and those least liable to abnormal fermentation be eaten. Milk should be the chief article of nourishment. But, in addition to it, broths, a little of gruels, and such fruit as oranges can be taken. During the three or four days when the disease is at its height milk alone is the best food, and only moderate amounts of it, two or three pints in the twenty-four hours, should be given, but water should be drunk as freely as possible. Such a liquid diet will stimulate excretion by the kidneys and will not overtax digestion. The broths will help to restore to the blood some of the salt lost by it and deposited in the hepatized lung, which, moreover, is important, in order that osmosis and metabolism may proceed normally.

When the urine is particularly small in quantity and there are evidences of deep intoxication, large subcutaneous injections of physiological salt solution often do good by provoking freer diuresis and more rapid elimination of toxins.

Elimination by the skin should be encouraged by sponging with warm or tepid water.

Oxygen.—Cyanosis is due in part to the hepatization of large areas of lung-tissue, in part to an enfeebled pulmonary circulation, to toxæmia, and some-

times to oedema of the lungs. That which will maintain cardiac strength and vigorous breathing will arrest and relieve cyanosis. The distress which accompanies it can, moreover, be greatly mitigated by the inhalation of oxygen. The writer knows nothing which contributes more to the comfort of patients than this gas does. Unfortunately, like food, it will only help to maintain strength and comfort, but cannot check the progress of the disease. Therefore, in the severe cases in which cyanosis indicates the employment of oxygen, it is rare that life is saved by its use, although it may be prolonged.

Care of the Heart.—Attention has been centered of late years upon the heart, probably too exclusively. And yet the maintenance of its strength and a suitable balance of arterial and venous blood is all important. If the obstruction to pulmonary circulation which exists in pneumonia developed gradually, it is probable that the heart would not be injured by it. But, coming with suddenness, it is especially apt to dilate and weaken the right ventricle. Dangerous distension of the heart is produced frequently when new and extensive areas of lung-tissue are hepatized by an extension of the disease, for the heart, weakened by the first attack of the malady, cannot resist such extensions. Other factors than pulmonary congestion play a part, however, in producing cardiac weakness. The disturbed metabolism of the muscle which is incident to the febrile state and an imperfect supply of oxygen are some of them. Digitalis is more relied upon than any other drug to support the heart. But other cardiac tonics, such as caffeine, strophanthus, and cactus can be used in its stead. Digitalis should be given as soon as the heart-beats range

above 100 per minute. It must often be prescribed in doses larger than are commonly given, for in pneumonia a resistance to it is most noticeable.

In 1888, Petrescu, of Bucharest, urged that digitalis be employed in excessively large doses, and lauded it as almost a specific for the disease. It was his habit to give for three or four days a tablespoonful, every half-hour, of an infusion made of from 8 to 12 grammes of leaves in 240 cubic centimeters of water. He treated soldiers in time of peace who were young, vigorous men, when they were attacked by the ailment: conditions under which the mortality from it is always lowest. The utility of such large doses has not been confirmed, and patients found in city hospitals are unable to take even much smaller ones without exhibiting symptoms of poisoning.

Theoretically, *strophanthus* seems preferable to digitalis, as it affects the heart with equal power, and does not contract the peripheral arterioles to the same extent, and thereby increase the work which the heart has to do.

Strychnine is another drug relied upon to-day, chiefly because it is the best respiratory tonic which we possess, stimulating deeper and stronger breathing. It is also a cardio-vascular and general tonic of exceptional value. In all severe cases it must be employed when respirations are excessively quick and shallow and the pulse is fast. In the worst cases it is best given hypodermically.

Diffusible Stimulants.—Diffusible stimulants are often needed. Their transitory effects must, however, be remembered. The aromatic spirit of ammonia and the carbonate of ammonia are the best. The first can be given every one or two hours. The latter every two or three. They are also useful expecto-

rants, helping to make less tenacious the secretions in the bronchial tubes and to keep them unobstructed. These ammonia compounds are prompt and efficacious in their action. They are especially indicated when the pulse is quick, small, or irregular.

Alcoholic beverages have for many years been used under the same circumstances. They have been given in large amounts, so much as 8 to 16 ounces of brandy or whisky daily. At first urged upon the profession by Todd, they were used as food as well as stimulants. To-day physiologists state that alcohol is not a food, or, if one, as some still contend, that it is of so little value as food as to be practically useless. No wonder, therefore, that experience as well as experiment has led to a lessened employment of alcoholic beverages. The best experimenters teach that the stimulant effects of alcohol upon the heart are obtained only from small doses, and that they are very transitory: of about fifteen minutes' duration. When large doses are given, anæsthetic effects prevail, which lessen the force of the heart, cause it to dilate more easily, make respiration shallower, and therefore increase the danger of cyanosis. From trials of it and much experience in the treatment of pneumonia without it, the writer is convinced that alcoholic beverages are unnecessary, that the ammonia compounds are more reliable, and that if used persistently the alcoholics do harm because of their anæsthetic and paralyzing powers. Alcoholics lessen the oxygen-carrying power of the blood, and therefore increase any tendency to cyanosis. They disturb metabolism and hasten muscular degeneration. They dilate the peripheral arterioles and lessen diuresis.

Antipyresis.—When chemical antipyretics were first introduced to the pro-

fession, they were extensively employed in pneumonia. But they have been discarded as dangerous. Their effect upon metabolism, by which they lessen fever, is very similar to that of alcohol, only it is more pronounced.

Cold baths were employed as an antipyretic measure, as early as 1850, by Vogel, of Berne, and later their use was urged by Liebermeister. Full tub-, sponge-, or douche-baths have been given every two hours when a patient's temperature has been above 102.5 or 103 degrees. The first statistics gathered seemed to show that this treatment lessened the mortality from the disease, but more experience has not confirmed this. However, it has been shown that cold baths are harmless. Now they are used rarely in pneumonia unless there is hyperpyrexia, when ice-cold baths and packs are relied upon.

Opiates.—Pain, coughing, and weariness caused thereby often lead to the administration of opiates and other soporifics. Such drugs can be used safely only in mild cases and at the onset of the malady, for later they will make respiration shallower and less vigorous, thus contributing to the development of cyanosis. They also suppress coughing, and thereby lead to an accumulation of mucus in the air-passages, which will interfere with breathing. Moreover, elimination by the kidneys is lessened by them.

The inutility of the antipneumonic serums upon the market has been shown recently by several writers, and need not be discussed in detail here.

Prophylaxis.—Never have physicians known so much of the nature of pneumonia or used remedial agents more intelligently than now, but is the medical profession altogether free from blame for its prevalence? Prophylactic measures have not been enforced as they

should have been. It is well known that the cause of pneumonia is a micro-organism in the sputa of those suffering from the disease, and that the malady is engendered by inhaling it. Therefore the same care should be taken to collect and destroy the sputa that is taken in pulmonary tuberculosis. It is not, however, a sufficient precaution to exercise this care during a patient's brief sickness, because the diplococcus of pneumonia is known sometimes to live and multiply for months and even years in the mouth, pharynx, and nose of those who have had the disease. Therefore, during convalescence, and for at least two or three weeks thereafter, expectoration, if it occurs, should be into a sputacup containing an antiseptic and water. Moreover, the patient's mouth should be rinsed several times daily with an antiseptic mouth-wash. During the illness the greatest pains should be taken to prevent soiling bedclothing, carpets, or furniture with the sputa. After the illness the patient's room should be thoroughly cleansed and ventilated. The enforcement of such measures will help to lessen the spread of this disease and will greatly lessen the frequency of its recurrence in those who have had it.

The facts that house epidemics are not infrequent and that the disease prevails as other contagious and highly infectious ones do in the winter season, when people are most crowded together and live much of the time in badly-ventilated apartments, suggests another prophylactic measure, which the public should be taught to apply, namely: thorough ventilation of houses, offices, factories, theaters, churches, cars, and other public places, in order that the air which must be breathed may be kept clean and free from infectious matter.

Laymen should be taught not to be

afraid of a patient who has pneumonia, influenza, or tuberculosis, but to be afraid of lack of cleanliness about him during his illness, of failure to enforce prophylactic measures, and of close, badly ventilated apartments during the seasons when these diseases prevail.

Although experiments with pneumonic serum have shown that a temporary immunity can be created in certain lower animals, it cannot be in man. These experimental successes, however, lead us to hope for more certain means of preventing pneumonia than we now possess. N. S. Davis, Jr. (*Journal of the American Medical Association*, July 5, 1902).

PRURITUS OF THE VULVA, SUPRARENAL EXTRACT IN.

In two cases of pudendal irritation, attended with marked pruritus, suprarenal extract gave marked relief. In the one, a young woman, 18 years of age, violent itching of the vulva and anus had come on ten days before. Notwithstanding usual methods of treatment, there was no relief, and in the meantime the condition had become so severe that she was unable to leave the house. A local examination showed an intensely congested condition of the vulva and the lower part of the vagina, with increased secretion. A strong solution of suprarenal was applied to the part, which was followed by a rapid blanching of the mucous membrane. Momentarily the itching was increased, and then gave way to a slight burning sensation, which passed off in a few minutes. The effects of this application lasted for fourteen hours, when the itching recurred. A second application cured the case. F. S. Meara (*Merck's Archives*, May, 1902).

RHEUMATISM, DISEASE OF THE CARDIAC MUSCLE FOLLOWING.

Dilatation of the heart ending in death may occasionally occur without valvular disease or general adhesion of the pericardium being present; in rare instances hypertrophy of the heart may occur without valvular disease or general adhesion of the pericardium. There is evidence that myocarditis may exist in the absence of pericarditis, and slight weakening of the myocardium may be shown by loss of physical energy, by attacks of cardiac pain, or by tachycardia. Theodore Fisher (*Lancet*, June 7, 1902).

SCARLET FEVER, GANGRENE IN.

The patient, a child 7 years of age, had suffered from a slight attack of scarlet fever. After desquamation a sudden swelling of the whole of the left leg, with patches of purplish discoloration of the skin, took place. Complete gangrene rapidly followed. The leg was amputated, and the large vessels were found to be blocked with purulent thrombi; the muscles were yellow in color, and permeated by a thick, muddy fluid. Streptococci were found in the blood. The patient recovered. R. Seubert (*Münchener medicinische Wochenschrift*, No. 2, 1902).

SPINAL CORD, SUTURE OF THE.

A doctrine firmly fixed in neuropathology is that neurons in the central nervous system do not regenerate after injury, whereas peripheral neurons show a marked tendency to recover under similar conditions. No satisfactory explanation of this unique fact, which both clinical and experimental research have in general substantiated, has been

forthcoming. There is some small evidence to show that in the lower animals a very slight regeneration of central fibers may occur after injury to the cord. In man such evidence is exceedingly scanty; so that for all practical purposes an injury to the central nervous system has been regarded as wholly irremediable. So deeply rooted is this opinion that the burden of proof lies heavily upon anyone who asserts a contrary proposition.

This has, however, recently been done by two Philadelphia surgeons, Drs. F. T. Stewart and R. H. Harte, who report a case in the *Philadelphia Medical Journal* for June 7th, under the title: "A Case of Severed Spinal Cord in which Myelorrhaphy was followed by Partial Return of Function." In justice to the writers and to the general importance of the subject such a case requires the most critical scrutiny before a general acceptance of the deductions may be expected. The patient was a young woman who was shot by a thirty-two caliber bullet at the level of the seventh thoracic spine. It is stated that "there was immediate and complete abolition of motion and sensation below a line transecting the lower part of the tenth dorsal spine, etc." The superficial and deep reflexes could not be elicited. No mention is made of the condition of the sphincters, and unfortunately no statement as to the means used of testing sensation. In view of the very great importance of this preliminary examination, it is to be regretted that there is not more evidence of care in its performance. From a neurological point of view it must be regarded as inadequate to establish the proposition that the cord was completely severed.

The operation was done three hours

after the accident, which perhaps did not allow time for so thorough an examination as the outcome rendered desirable. After removing the necessary spines and laminæ the following appearances presented themselves:—

The rent in the membranes, through which could be seen the leaden bullet and a number of small fragments of bone lying between the ends of the severed spinal cord, was exposed. After removing the bullet, the fragments of bone, and the lacerated nervous tissue, the distance between the segments of the cord was three-fourths inch; this statement was verified by the assistants, Drs. Mitchell and Van Meter; by the etherizer, Dr. Fraley; and by Dr. Newlin, who was watching the operation. The wound was flushed with salt solution and the ends of the cord approximated with three chromicized catgut sutures passed by means of a small staphylorrhaphy needle, one suture being passed antero-posteriorly through the entire thickness of the cord and the other two being passed transversely. This part of the operation was attended with unusual difficulties because of the narrow space in which the suturing was conducted, because of the consistency of the cord, and because of the wide interval between the fragments, the catgut frequently tearing out before the ends were finally brought together. The dura mater could not be approximated.

On the fifth day the patient is stated to have complained of pain in the right knee, of thrills traveling up and down the extremities, and of cramps in the legs. Can feel a squeeze of the calf as a pulling sensation in the back. Is it conceivable that, five days after approximating and suturing a spinal cord over a distance of three-fourths inch, regeneration could have taken place.

sufficient to give rise to distinct sensory reactions in the legs? Whatever slight evidence there may be to show that the cord regenerates at all after injury, there is certainly none at hand to demonstrate that cut nerve-fibers could transmit impulses at the end of five days. The observations made at the time of operation and those immediately after cannot be reconciled. Either the cord was not completely severed or else the sensory phenomena on the fifth day were wrongly interpreted. On the seventh day the somewhat curious statement is made that "pin-prick of the soles of the feet is felt in the midback," and there was also on this day a feeble contraction of the leg-muscles. From this time on there was slow, but steady, improvement, both in sensation and motion, and also in the condition of the sphincters, so that at the end of sixteen months the patient was able to stand, with some assistance, and in great measure had recovered her sensation.

It is maintained by the writers that, inasmuch as the cord was seen at operation to be entirely severed, therefore the partial recovery which took place must have been due to the regeneration of spinal axones. If the premise is correct, the conclusion is certainly justified, but we are forced to doubt the accuracy of the premise. The case proves too much. To draw together by suture passed through the cord the two ends, separated by three-fourths inch, and establish conductivity on the fifth day, is too subversive of physiological and pathological knowledge to permit of unreserved acceptance. The case is of great interest as a contribution to spinal surgery, but it must be received with much caution by all physicians who aim at scientific accuracy. Editorial (Boston Medical and Surgical Journal, June 26, 1902).

SPRAINS, MANUAL REDUCTION OF, WITHOUT ANÆSTHESIA.

Success met with in ten instances in reducing luxation at the shoulder by the following method: The patient being laid on his back on the ground, the surgeon, placing himself on the injured side, grasps the luxated limb at the hand and begins to extend it slowly and gently. As the energy of the extension is slightly increased, the limb is gradually abducted until it is almost vertical: that is to say, parallel to the axis of the body. The arm is then slowly lowered while pressure is exerted by an assistant on the head of the humerus, which, with the arm fully raised, should be over the glenoid cavity. It is necessary, the author states, while extending and abducting the limb, to avoid excessive irregular extension, and thus to avoid setting up muscular spasm. The time taken in reducing luxation of the shoulder by this method varied in the author's cases from seven to thirteen minutes. Most of the patients on whom he has successfully applied this method were very strong working-men. Roloff (Centralblatt für Chirurgie, No. 16, 1902).

SUPRARENAL CAPSULES, ANTI- TOXIC FUNCTIONS OF.

Suprarenal extract, if mixed with substances of a toxic nature or if injected into animals simultaneously with such toxic substances, increases in many instances the resisting power of the organism to intoxication. Results vary with different poisons. Almost no result is noticed when the poison is strychnine or atropine, but the antitoxic action is striking in the case of phosphorus or of the toxic substances contained in human urine. The author admits that unilateral decapsulation does not diminish organic resistance to intoxication; in

fact, he believes that in diphtheritic infection and in phosphorus poisoning animals which have been partially decapsulated resist better than normal control animals. The explanation of this fact is to be found in the enormous hypertrophy and hyperactivity of the gland which is left in place when its fellow is removed. The symptom-complex of acute insufficiency of the suprarenal bodies has been observed from time to time in infants. Following such an attack lesions of these glands may remain latent, but may manifest themselves, when an intercurrent intoxication occurs, by the failure to destroy the poisons then introduced into the system. In the presence of diseased suprarenal bodies a common tonsillitis, for example, may become a rapidly-fatal disease, while in an otherwise normal individual a similar intoxication would have a benign course. R. Oppenheim (*Thèse de Paris*, 1902; *Medical News*, July 12, 1902).

TUBERCULOSIS.

Medicinal Treatment.—While in the treatment of tuberculosis the following factors must be considered as of the chief importance,—namely: (a) open-air life, (b) plentiful animal diet, and (c) rest,—medicinal treatment should not be disregarded. At times one can do much with drugs in conjunction with hygienic-dietetic treatment. The preparations which have given the best results are ichthyol, ichthoform, and sodium salicylate. The action of ichthyol is said to consist in slowing abnormally increased metabolism, and in conserving the using up of albumin. Some years ago the author tried this drug in phthisis, but, owing to a faulty method of exhibiting it, he did not get good results. His recent experience teaches him that, when employed in severe cases, two marked effects can be

noted: First, a distinct diminution of the bronchial secretion takes place, and at the same time the râles disappear more or less completely; in other words, the “bronchial catarrh” diminishes or disappears. Secondly, the patient puts on weight. Accompanying this change a raising of the arterial tension can be ascertained. In considering the mode of action, the opinion is expressed that ichthyol probably owes its effects to complicated chemico-biological processes, and not, as has been suggested, to a pure antiseptic action. It is given in large doses, and continued for a long period. Preferring the fluid preparations, the author advises one of the following formulæ:—

℞ Ichthyol. ammon., 6 drachms and 25 grains.

Aquæ destil., 2 ounces.

Alcohol rect., 2 ounces.

Syrup. aurant., 1 ounce and 6 drachms.

Syrup. limonis, 1 ounce and 6 drachms.

Or:—

℞ Ichthyol. ammon., 6 drachms and 25 grains.

Elixir simplicis (U. S. Pharm.), 5 ounces and 4 drachms.

Aquæ destil., 2 ounces.

M. D. S. One teaspoonful in a glassful of water, once or several times a day.

As a rule, the author prescribes 1 teaspoonful a day during the first week, 2 teaspoonfuls a day during the second week, and so on until 8 or 10 teaspoonfuls are taken during the day; that represents a daily dose of 8 grammes (2 drachms). At times a mixture of ichthyol in peppermint-water and syrup is useful. Notwithstanding the objectionable taste of ichthyol, the author usually

gets his patients to take one of the foregoing mixtures without complaint, and even has experienced that a patient, finding that the drug was doing him good, has asked for the dose to be increased. As an inhalation, ichthyol on a piece of cotton-wool is used, in a suitable apparatus, and good results have been obtained in removing the offensive odor of the sputum in some cases. Ichthoform is a newer preparation, and is a reaction product of ichthyol and formaldehyde, the proper chemical terminology of it being thiohydrocarburic sulphate of formaldehydatum. Tried in 18 tuberculous subjects in doses of 1 to 3 grammes (15 to 45 grains) daily and employed in the form of a powder, the effect appeared to be like that of ichthyol, and it proved useful in combating diarrhoea and other digestive disturbances. Neither ichthyol nor ichthoform appears to have any influence on the fever, nor are they capable of diminishing the number of bacilli in the sputum. To reduce the temperature in tuberculosis the use of sodium salicylate is recommended in dose of 15 grains, followed immediately by a large glass of water (about 7 to 9 ounces), which will prevent dilatation of peripheral vessels and consequent depression of the heart and changes in the kidneys. The author has nothing but good experience to report of its use, and asserts that he would be pleased if others would test the action of these drugs in phthisis. E. de Renzi (*Berliner klinische Wochenschrift*, May 5, 1902; *British Medical Journal*, June 28, 1902).

Successful Vaccination Against.—Behring states that his efforts to render cattle immune to tuberculosis have been crowned with success. He proceeds on the same principle as vaccination against small-pox by inoculation of cow-pox. He uses, not the bovine, but

the human, tubercle bacilli. Previous efforts in this line have been with homologous bacilli, and the result was similar to the old-fashioned variolation which has been supplanted by vaccination. There is no general reaction to inoculation of serum-cultures of human tubercle bacilli, but the animals are henceforth protected against the fatal dose of bovine tubercle bacilli cultivated from nodules of bovine tuberculosis and the virulence enhanced by reinoculation into other cattle. This is the severest possible test, as Koch has announced that cattle invariably die of acute miliary tuberculosis in lungs and abdomen after inoculation of even a small amount. Behring used a mother-culture of human bacilli derived from a guinea-pig infected with phthisical sputum in 1895, and reinoculated into other guinea-pigs. He makes an intravenous injection of 1 milligramme of a four to six weeks' serum-culture from this mother-culture. He chooses for the tests a heifer from 5 to 7 months old that does not react to the standard tuberculin test. Four weeks later the animal receives another injection, twenty-five times larger than the first: that is, 25 milligrammes of the same serum-culture. The animal is now completely protected against all laboratory infection from tuberculosis. Time will soon decide whether this method of immunization will stand the test of application on a large scale outside the laboratory. Some of his protected cattle are now tethered in stalls beside a cow in an advanced stage of tuberculosis. He is convinced of the identity of human and bovine tubercle bacilli, and has succeeded in isolating the essential toxin nucleus: that is, the chemical substance which, in combination with various other substances, is contained in all

preparations of tubercle bacilli and without which it is impossible to produce the specific tuberculin action. The degree of the toxicity of different cultures is widely variable, but the essential toxic action is always identical with tubercle bacilli from any source. This is a strong argument in favor of the identity of human and bovine tubercle bacilli, as also the fact that human bacilli can be rendered extremely virulent for cattle by appropriate passages through animals, and that even bovine tubercle bacilli do not inevitably induce bovine tuberculosis in cattle. The conviction is constantly gaining ground that the characteristic features of bovine tuberculosis are merely manifestations of the chronic course of the disease. But the most convincing argument of all is the result of his experiments, which prove that animals can be immunized against bovine tuberculosis by inoculation with serum-cultures of human bacilli and *vice versa*. Although Behring's communication deals only with cattle, the three words "and *vice versa*" open a new and promising phase in the campaign against human tuberculosis. F. Klemperer (Journal of the American Medical Association, July 12, 1902, from Beitrage zur exp. Therapie, H. 5, 1902).

TYPHOID AND MALARIA, THE BLOOD IN.

Examination of the blood in some fifty cases of continued and remittent fevers among Europeans and natives of Calcutta. In India it is supposed that natives are to a great extent immune to typhoid, but this is not the case. Investigation showed that the percentage of the different forms of leucocytes counted in a stained blood-film is of great diagnostic value in differentiating ty-

phoid and malarial remittent fevers and is easily ascertained. An increase of the lymphocytes to 40 per cent. or over, without any increase in the large mononuclears, points to typhoid as against malarial fever. An increase in the large mononuclears to about 12 per cent. and upward, especially during the remissions of the temperature, strongly indicates malaria as against typhoid fever. This change is of great value when parasites are absent from the blood. The presence of myelocytes in any number, such as from 1 to 5 per cent., points to malaria as against typhoid fever. A high degree of anæmia, such as a reduction of the red corpuscles to below 3,000,000 per cubic millimeter, is much more frequently met with in malarial than in typhoid fever. A very great reduction in the total leucocyte-count, such as to below 2000 per cubic millimeter, is much more frequently met with in malarial than in typhoid fever, while the proportion of white to red corpuscles in malaria is not frequently less than 1 to 2000, which is rare in typhoid fever. Leucocytosis can be detected by the presence of a great excess of white corpuscles, upward of 80 per cent. of which are polynuclears, in a stained blood-film, and is often of service in excluding malaria in intermittent fever due to liver-abscess or other local inflammations. Leonard Rogers (British Medical Journal, April 5, 1902).

TYPHOID FEVER, PROGNOSIS IN.

Symptom suggested by Trousseau many years ago. When deafness is present only on one side the prognosis ought to be guarded, for the patient almost always dies, although the disease at that time may appear very mild. If the deafness occur on both sides, however, the prognosis is good, for it is said

that persons are almost never seen to die when this symptom is present. No explanation for this unusual phenomenon is offered, but its value may be learned by experience. W. C. Doane (New York Med. Jour., April 26, 1902).

TYPHOID FEVER, THE TECHNIQUE OF THE WIDAL REACTION.

The following method insures uniformity of results, requires a minimum amount of serum, and involves but little risk in manipulation. The blood is collected in U-shaped capillary tubes of glass having an outside diameter of about 2 millimeters. One end of the tube is touched to the drops exuding from a small incision in the tip of the ear and is quickly filled by capillarity, after which both ends are closed with sealing-wax. In the laboratory the tube is placed in the centrifuge, and a stroke of the file serves to separate the serum-filled portion of the tube from that containing the clot. A 1-cubic-centimeter pipette, graduated in one-hundredths, is held point up and the contents of the tube transferred to it again, which is easily effected by capillarity. The amount of serum in the pipette is read off and then blown into a test-tube containing 1 cubic centimeter of physiological salt solution. This mixture is further diluted by exactly the amount required to make a dilution of 1 to 10. The dilution is continued by putting $\frac{1}{2}$ cubic centimeter of salt solution into several test-tubes, the first of which is allowed to remain empty. One-half cubic centimeter of the 1 to 10 dilution is placed in Tubes 1 and 2, $\frac{1}{2}$ cubic centimeter out of Tube 2 is placed in Tube 3, and $\frac{1}{2}$ cubic centimeter of this mixture in Tube 4. Each tube then contains $\frac{1}{2}$ cubic centimeter of diluted serum, in strengths of 1 to 10; 1 to

20; 1 to 40; etc., five dilutions being usually made and one tube being filled only with salt solution as a control. Each tube then receives $\frac{1}{2}$ cubic centimeter of a typhoid bouillon culture, which, after one day of growth, is killed by the addition of 1 per cent. of formalin, and has been allowed to settle for two days at a temperature of 37° C. The tubes now contain equal quantities of fluid and of culture and differ only by the amount of serum present, the dilution of which is now, of course, doubled. The tubes are immediately emptied into small glass dishes, which are placed one on top of the other, and put in the thermostat to be examined at the end of one and two hours. The inspection is made under the low power (50 diameters), and but little practice is required to recognize artefacts, and by considering all doubtful reactions negative consistent results are regularly obtained. F. Pröscher (Centralblatt für Bakt., Parasit., und Infect., in Medical Record, June 21, 1902).

VERTIGO.

Vertigo of Nasal Origin.—Case in which the patient, a young man aged 32 years, complained of a tickling in his nose and a violent attack of sneezing, following which he had a sharp pain in the back of his neck and vertigo. The attack left him in a drowsy state. Fifteen days later he had a somewhat similar experience, but the tickling was in his throat. Twelve days later he had a slight attack, with no loss of consciousness, but with convulsive movements of arms and congestion of face; finally, fifteen minutes later, abundant perspiration. The writer attributes these symptoms to excitation of the trigeminal nerve, and considers the case one of masked epilepsy. F. J. Collet (Journal

of Laryngology, Rhinology, and Otol-ogy, June, 1902).

Aural Vertigo.—In all cases of vertigo coming to the otologist minute methods of study as to the tympanic and labyrinthine condition should be employed. The general aspects of the patient's condition should also be carefully investigated. All involvements of the accessory nasal cavities should be excluded or relieved. The refraction and muscular relations of the eyes should be investigated, as well as whatever teaching may be given by the eye-grounds learned, and abating nothing of the local treatment by inflation and massage which the aural condition may seem to demand, and using strychnine and other tonics, according to the general needs of the patient. One may yet employ as a direct and almost specific means of treatment that vigorous vascular tonic, adrenal extract. B. Alexander Randall (*American Medicine*, June 21, 1902).

Tympanic vertigo comprises all those tubal changes caused by difference in atmospheric pressure; those changes in the tympanum due to inflammatory products, either fluid or solid; those changes due to connective-tissue products; and those changes the result of residual products. The vertigo arising from venous engorgement of the walls of the Eustachian tube or from hypersecretion of the lining membrane is usually mild in type, but where there are hypertrophic changes the vertigo is often exceedingly severe. Frequent inflation, preferably by the catheter, is indicated in the congestive cases. The use of the nasal douche in congestive conditions should be prohibited as a prophylactic measure. In the acute catarrhal and purulent cases early incision of the drum-membrane might be indicated. After the subsidence of the acute symptoms there

should be given a course of middle-ear inflation in order to restore the hearing and break up any adhesions that may exist. In the more severe inflammatory cases it may be necessary to remove the ossicles or even do a Stacke operation. The patency of the Eustachian tube should be restored, and, in the author's opinion, this is best accomplished by electrolysis. (W. P. Brandegee.)

Stomach Vertigo.—In stomach vertigo everything appears to whirl around the patient. Nausea usually follows the attack, and is associated with pain in the stomach radiating to the back, and usually with constipation. There is no loss of consciousness and no misconception of the hallucinations. The attack usually occurs on an empty stomach, but may take place after an ordinary meal. At times the gastric symptoms are very indefinite. Attempts have been made to associate gastric vertigo with well-defined pathological conditions in the stomach. A review of the literature shows a wide difference of opinion regarding the state of the stomach in these cases of vertigo, and also as to its frequency. There is reason for believing that gastric vertigo may result reflexly from either cerebral congestion or anæmia. Since the work of Bouchard, in 1884, on intoxications, gastric vertigo has been included in the long list of affections supposed to be due to auto-intoxications. It has never been proved that there is any direct relation between gastric vertigo and abnormalities of the stomach secretions. In the early stages of chronic gastritis it is quite possible that hyperchlorhydria may exist, but in the later stages it is not present, and the vertigo then should be associated with diminished acidity. In all cases of chronic gastric disease in which the nervous system is diseased one should be slow to

make the diagnosis of gastric vertigo. The most common form of chronic gastric disease met with in this country is the nervous atonic variety, and it is with this form that stomach vertigo is most often associated. It is possible that in this variety the general nervous system has suffered in nutrition to such an extent as to make it particularly vulnerable to stimuli from distant organs. Vomiting is a common accompaniment of vertigo, whatever its origin, and, hence, the mere presence of nausea and vomiting is not sufficient to establish the diagnosis of gastric vertigo. To attempt to make such a diagnosis from the character of the vertigo is futile. The cases of gastric vertigo can be conveniently studied in three groups, viz.: (1) those cases of vertigo accompanied by nausea, palpitation, and intense fear, following indiscretions in diet; (2) severe attacks occurring in the course of chronic disease of the stomach without any indiscretion in diet; and (3) mild and fleeting attacks occurring in the course of chronic gastric diseases and general neurotic conditions. True gastric vertigo is probably rare, and belongs only to the second of these groups. (C. S. Fischer.)

Vertigo is found in almost every known disease of the stomach, and in many disorders, also, of the intestine. Vertigo should be attributed to the stomach if there is a gastric catarrh or a manifest abnormality of the stomach secretion. According to personal experience, this form of vertigo is not so often due to auto-intoxication as to some reflex disturbance. (Max Einhorn.)

Neurological Diagnosis.—Iodide of potassium is often given in large doses by neurologists, and it sometimes is responsible for attacks of intense vertigo. In migraine vertigo is often one of the symptoms of the full-fledged attack.

In neurasthenia and hysteria vertigo is usually subjective. It is less frequently complained of in the latter, and does not appear to be so constantly present. The more important cases of vertigo coming under the notice of the neurologist are those due to organic disease of the brain. In these the centers in the medulla and cerebellum are involved: directly, as by sclerosis, tumors, hæmorrhage, thrombosis, abscess, and trauma; and, indirectly, by changes in blood-pressure. In the pons and medulla tumor is the most common cause. Vertigo due to changes in blood-pressure is observed chiefly in connection with that form of epilepsy known as *petit mal*, and in general paresis. Cerebral endarteritis is also a fertile cause of vertigo due to brain disease; indeed, vertigo is often one of the prominent symptoms of advanced arteriosclerosis. As a symptom of apoplexy, vertigo is important, and often occurs for weeks before the apoplectic attack. In the cerebral manifestations of syphilis vertigo is a symptom of the highest importance. (Pearce Bailey.)

Ophthalmic Vertigo.—The form of vertigo most commonly seen by the ophthalmologist is that dependent upon diplopia following paresis or paralysis of some of the ocular muscles. The less conspicuous to the observer the ocular anomaly, the more apt is the patient to suffer from vertigo. If closing one eye does not cause a disappearance of the vertigo, then the other eye should be closed, when it will at once disappear. The treatment is that appropriate to the underlying cause, and the patient should be made to wear an exclusion glass. In many individuals, especially if neurasthenic, very gratifying results often follow the correction of very slight errors of refraction. For the time

being any muscular anomaly should be ignored, but, if the correction of the refractive error brings no relief, the lack of muscular balance must receive attention. W. B. Marple (*Medical Record*, June 7, 1902).

VITAL PROPERTIES OF MATERNAL AND FETAL SERUM.

The vital properties of active maternal serum are more marked than those of active foetal serum. This applies to its hæmolytic, agglutinating, bactericidal, antifermentative (antitryptic), antitoxic, and precipitating properties. The human serum examined, if added in excess, impairs the intensity of the agglutination and precipitation. The precipitation is also lessened by the excessive addition of precipitating immune serum. It is certain that active foetal serum is of the same chemical composition as active maternal serum, but that the active principles are present in the former in reduced quantity. This explains the slight resistance of the newborn to various infections. Josef Halban and Karl Sandsteiner (*Münch. med. Woch.*, March 25, 1902).

WOUNDS, ASEPSIS OF.

The hands should be cleansed by washing with soap (soap manufactured

by process of boiling is the only soap free from germs) and scrubbed with brush for ten minutes; then subungual spaces should be cleansed, scrubbed again for five minutes, washed or scrubbed in alcohol one minute, and washed in permanganate and oxalic-acid solution or solution of chlorine for five minutes. These solutions are not necessary for the ordinary handling of wounds, and can be substituted by the use of alcohol and bichloride, 1 to 1000, and afterward rinsing in sterilized water. The skin should be prepared by scrubbing with soap and brush, five minutes or more; cleansed with alcohol; and washed off with bichloride, 1 to 1000. The wound should be cleansed with peroxide and antiseptic solutions and dressed according to character of wound. Instruments are best prepared by scrubbing with soap and water and sterilizing in a 1-per-cent. solution of cooking soda for at least five minutes. Towels, dressings, etc., should be prepared by sterilizing for at least twenty or thirty minutes. Moist heat (steam) is best, as it is more penetrating. A large package of dressings will necessarily take longer than a small package. E. D. Martin (*New Orleans Medical and Surgical Journal*, June, 1902).

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Volume v, Jan., 1902.—*Report Relating to the Registration of Births, Marriages, and Deaths in the Province of Ontario for the Year Ending 31st December, 1900.* 1902.—*Year-book of the United States Department of Agriculture, 1901.* 1902.—*Is Adrenalin the Active Principle of the Suprarenal Gland?* By T. B. Aldrich. 1902.—*The Surgical Treatment of Prostatic Hypertrophy.* By Charles H. Chetwood, New York. 1902.—*Hydrocyanic-Acid Gas Against Household Insects.* L. O. Howard, United States Department of Agriculture, Washington, D. C. 1902.

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ALBUMINURIA, NEW NITRIC-ACID TEST FOR.

A glass pipette is used and the urine allowed to run up the tube one or two inches. The index finger is then placed on the top, and the urine washed and

dried off the outside of the tube. It is then inserted into nitric acid, and the index finger partially removed to allow the acid to flow up the tube. The presence of albumin always causes a white ring to form at the line of contact. Globulin,

albumoses, and peptones may also cause a small ring at the zone of contact, but they are seldom present. If suspected they may be tested for by boiling the urine. A cloud appears just before the boiling-point is reached, but disappears when boiling occurs. Urates may cause a similar ring. Similar experiments have been tried with twelve other reagents which have been recommended for detecting albumin in urine, but the results were never so satisfactory as when nitric acid alone was used. L. N. Boston (*New York Medical Journal*, May 24, 1902).

ANÆSTHETICS, VOMITING AFTER.

Post-anæsthesia vomiting is a source of danger and great discomfort to the patient, and is preventable. It is due to excretion of ether into the stomach, with resulting acute gastritis. Drugs are of no avail in the prevention or treatment of post-anæsthetic vomiting. The present technique of preparation of patients for etherization is faulty, in that fluids are usually entirely prohibited or limited, whereas they should be used to aid in excretion of the ether. The quantity of ether used should be as small as possible, and the strength of the ether-vapor should not cause bronchial irritation with excess of mucus. The combined use of nitrous oxide and ether gives the best results. In anticipation of gastric irritation, one or two glasses of water should be given shortly before beginning the anæsthetic. These deductions seem very reasonable; the advice given can readily and easily be carried out, and its value determined. Hess (*Therapeutic Monthly*, July, 1902).

ANESTHESIN.

Anesthesin, which is chemically paramido-benzoic-acid ethyl-ester ($C_6H_4.NH_2.COOC_2H_5$) is a white powder, odorless and tasteless, with difficulty sol-

uble in cold water, somewhat more readily in warm water, very easily soluble in alcohol, ether, chloroform, fats, and oils. It is eligible for insufflation. Both chemically and therapeutically it is closely allied to orthoform, but it is claimed that it is much less toxic than the latter. Von Noorden (*Berliner klinische Wochenschrift*, No. 17, 1902) gave the remedy internally in gastric hyperæsthesia and in ulcer of the stomach; in the form of tablets or bonbons he gave it in irritating coughs, in dysphagia, and as an insufflation in hyperæsthesia of the larynx. In ointment form it proved useful in various forms of pruritus, especially in pruritus vulvæ from diabetes mellitus, in icterus, and nephritis, and in the pruritus of perianal and scrotal eczema. In the form of suppositories it proved useful in painful hæmorrhoids. The dose is as follows: Internally, 5 to 8 grains twice or three times daily, ten to fifteen minutes before meals. The highest daily dose was 40 grains. The tablets and bonbons, given for cough, etc., contain from $\frac{1}{8}$ to $\frac{3}{8}$ grain. The suppositories contained 3 to 8 grains, the urethral bougies 5 grains; the strength of the ointment was 10 per cent. For inhalations Dr. von Noorden used either a thin tragacanth emulsion (3 per cent.) or a 3-per-cent. solution, the vehicle consisting of 45 parts of absolute alcohol and 55 parts of water. (*Merck's Archives*, July, 1902.)

APPENDICITIS.

Conditions in the abdominal cavity, especially below the level of the umbilicus, which may cause approximately the same symptoms as, and the signs of, appendicitis:—

Bones and joints: vertebrae, sacrum, ilium, and femur; especially tuberculous osteitis. Muscles: iliacus, psoas, exter-

nal and internal oblique, and abdominal; chiefly myositis. Nerves: ilio-hypogastric and inguinal; lumbo-abdominal by neuralgia; sympathetic by neuralgia, pneumonia, and pleurisy; and the general nervous system by hysteria. Glands: chiefly in the form of adenitis, may affect the precæcal, retrocolic, retroperitoneal, abdominal (especially syphilis); and tonsillitis. Peritoneum: general as a serositis, omental as a true peritonitis, or tuberculous as a peritonitis. Vestiges and diverticula: vitello-intestinal and intestinal-funicular by infection and abscess, Meckel's by obstruction. Colon: impaction, perforation following impaction or from foreign body; malignant disease, especially carcinoma. Cæcum: foreign body (orange pulp); enteroliths; intussusception, especially ileo-colonic; perforative ulceration; perforative malignant disease; tumors (fibromyoma, carcinoma, sarcoma). Ileum: foreign body, chronic lead poisoning, acute inflammation with localized peritonitis, chronic inflammation with adhesions, perforation, typhoidal ulceration of Peyer's patches, malignant disease (soft sarcoma and lymphosarcoma). Duodenum: perforative ulceration. Stomach: perforative ulceration, gangrenous polyp. Abdominal cavity: foreign body, like ligature. Hernia: properitoneal (Littre's) or into the fossa of Treves. Spleen: inflammation. Pancreas: inflammation. Kidney: floating kidney, hydronephrosis, pyonephrosis, perinephritic abscess. Urethra: abscess, gonorrhœal inflammation, calculus. Prostate: gonorrhœal inflammation, acute epididymitis. Liver: subhepatic abscess. Gall-bladder and ducts: dilatation, rupture, cholecystitis, empyema, cholelithiasis, with or without dropsy, cystitis, or empyema; abdominal abscess following empyema of the gall-bladder, gall-stones in and obstructing

the intestines. J. M. Spelliasy (*Annals of Surgery*, June, 1902).

ARTHRITIS, PNEUMOCOCCIC.

A personal study of, and experience with, arthritis due to the pneumococcus suggests nearly all of the conclusions reached by Leroux, some of which are here practically repeated: It is a rare affection, found oftener in men, sparing no age. It appears oftenest during or shortly after croupous pneumonia, sometimes as late as the third week after the crisis. It may be primary in the joint, and severe and even fatal constitutional symptoms may result from the toxæmia thus induced; in these cases of primary pneumococcic arthritis pulmonary localization may or may not occur. Previous damage to a joint as by trauma, rheumatism, or gout favors the localization. The lesions may be limited to the synovia or may be more extensive, involving the cartilages and bones. The periarticular structures may be involved. The sub-acute cases are sometimes highly destructive to the joint, and the same is true of some of the more acute ones. The lesions are usually monarticular (61.5 per cent.), the larger joints being oftenest involved. The knee is the joint most frequently affected. The joints of the upper extremity are affected a little oftener than those of the lower, but the difference is insignificant. The condition is recognized by the ordinary signs of an acute or chronic inflammation of a joint. Exploratory aspiration, with bacteriological examination of the fluid, is the only means of recognizing the pneumococcic nature of the inflammation. The gonorrhœal arthritis and periartthritis have to be carefully excluded, as well as the arthralgias following pneumonia. The prognosis is grave,—mortality, 65 per cent.,—largely because of the accom-

panying bacteræmia and involvement of other more vital parts of the body (meninges, pleura, pericardium, etc.). Yet spontaneous recovery occasionally follows, even where there is a purulent exudate. The cases of suppurative pneumococcic arthritis should be treated by immediate incision and drainage. Serous arthritis may often be healed by aspiration, rest, and compression. J. B. Herrick (*American Journal of the Medical Sciences*, July, 1902).

BROAD LIGAMENT, HÆMOSTASIS OF.

Hæmostasis should insure absolute security against hæmorrhage, whether primary or secondary; protection against septic contamination; the least injury to the parts treated, and the absence of foreign bodies in the wound. By the use of the electrothermic forceps and the angiotribe it is possible to approach very nearly these ideal conditions. The former can be used only when electricity is at hand, and is therefore available rarely except in hospital practice. The angiotribe is often imperfectly constructed, fails in some particular, is carelessly used, and therefore does not give uniform results. The writer states that his own experience with the angiotribe has been most satisfactory, without a single case of secondary hæmorrhage. Its use, however, has been reinforced with ligature in selected cases. If ligation *en masse* be done, the ligature may loosen and slip, by shrinking of the stump, or the larger vessels may retract away from it. Individual ligation, on the other hand, may fail to secure all of the important vessels by mere accident; but, of the two methods single, the latter is to be preferred to the former. The method employed is a clamp of personal design applied to

the appendages of tumors with pedicles, to the root of the broad ligament, and directly across the pedicle of other tissues removed. When a large vessel is clamped the instrument is usually turned sufficiently to follow it, and then that vessel secured by an individual ligature. Sometimes collateral branches are large enough to require individual attention. The best example of this is the ovarian artery in the broad ligament, which may need tying more than once. The pressure of the clamp controls all oozing, while these individual ligatures make bursting of the large vessels through the grayish tissue impossible. The advantages claimed are the following: 1. Complete and permanent hæmostasis, with no possibility of the ligature slipping either off the end of the artery or off the stump. 2. Inability of the artery to contract and draw away from the grasp of the ligature and form hæmatoma or hæmatocèle. 3. By the combined use of the angiotribe and ligature multiple thrombi are formed, plugging the vessels most securely. 4. There is no puckering up or massing together of broad-ligament tissue to draw upon or displace other organs or structures. 5. No strangulated stump tissue remains to slough, granulate, and form adhesions. 6. The amount of foreign matter left in the wound is reduced to a minimum. 7. The rapidity of this method and its bloodlessness materially lessen the danger of post-operative shock. 8. Convalescence is eased materially and hastened to a marked degree. H. P. Newman (*Annals of Surgery*, June, 1902).

BRONCHO-PNEUMONIA IN INFANTS.

The following measures are recommended: At the very first onset of

pneumonic symptoms (high temperature, diminished resonance, small non-crepitant or crepitant râles, apathy, increased rate of heart-beat and respiration) the writer gives a bath of 86° F. for two minutes and then slowly reduces the temperature of the bath by adding cold water for from two to three minutes till a temperature of 76 degrees is reached. The body of the patient is rubbed with a sponge or cloth or the hand to promote reaction of the skin and reduction of the body-heat. The bath-water need not, and in cases of feeble children, should not, quite cover the body, but the water can be sponged on the chest, the patient lying in the arms of an attendant. If definite pneumonic symptoms be present, the bath may have to be repeated at intervals of from eight to twenty-four hours.

The cross-packs relieve the symptoms of bronchitis. The writer uses them extensively in incipient phthisis, but they give excellent results, and naturally prompt ones, in uncomplicated single bronchitis. They are applied in the following way: A linen bandage about one and one-half inches broad for infants and five inches for adults, and from two to three yards long, is placed in cold water (from 54 to 66 degrees), is well wrung out, and is applied to the chest thus: (1) beginning under the right axilla, passing over the left clavicle and round the chest back to the right axilla; (2) from here around the chest horizontally; (3) from the right axilla to the left and over the back and the left clavicle to the front (or left axilla). This bandage is covered in the same way with a thick single or thin double flannel bandage perhaps half an inch broader. The "pack" is applied at night and left till the morning; on removing it the chest must be well

rubbed with a cold, wet towel, and then rubbed dry. T. Zangger (*Lancet*, June 28, 1902).

CARCINOMA OF THE LARGE INTESTINE, DIAGNOSIS OF.

Attacks of intestinal colic occurring at longer or shorter intervals are often the first symptoms of this condition, and when present in supposedly healthy persons, especially those who have passed middle life, they should excite suspicion and lead to a thorough examination for the presence of carcinoma of the large intestine. Of course, all cases of this disease are not accompanied by attacks of colic, and such attacks may be produced by other causes, notably the excessive use of tobacco; but their occurrence should always excite grave suspicion, as above noted. Rigidity of the intestine upon palpation is one of the most characteristic symptoms of intestinal obstruction. Its presence, of course, does not mean that the obstruction is due to carcinoma. It does, however, signify that the obstruction is of a chronic character, and is one of the most valuable signs in the chain of evidence which is necessary to establish the diagnosis of carcinoma of the large intestine. The location of the rigidity does not correspond with the location of the obstruction, and hence is not available for determining the exact situation of the tumor. So-called stenotic murmurs are of great value in the diagnosis of intestinal stenosis, and it may safely be said that most authors do not attach to them a sufficient importance. These murmurs are to be accurately differentiated from the gurgling sounds frequently heard in various intestinal conditions. The sound most closely resembles that produced by water when it is poured upon the ground at some height from a pitcher. They

may be distinctly heard at a distance of several feet from the patient. Persistent tenesmus is very characteristic of carcinoma of the large intestine, and its degree of persistence and intensity throws much light upon the location of the tumor. The lower the tumor is located, the greater is the persistence and intensity of this symptom. The characteristic hæmorrhages present in this disease are those in which a small amount of fresh or newly-clotted blood is passed at frequent intervals for a considerable period. Great diagnostic importance attaches to this symptom when careful rectal examination with the speculum has failed to show the presence of hæmorrhoids or any inflammatory rectal condition. Under such conditions the presence of pus in the discharges is also of significance. Such pus should always be submitted to microscopical examination, in order to ascertain if broken-down fragments of carcinomatous tissue are present. Much importance has been attached by some authors to the presence of so-called stenotic fæces in the diagnosis of carcinoma of the large intestine. The form of the fæces is dependent upon the condition of the lower rectum and the sphincter ani; only in those cases in which the carcinoma is located low enough to cause an irritation of these structures are stenotic fæces present in this disease. Their value, therefore, as a diagnostic sign is entirely limited to this class of cases. F. Crämer (*Medical Record*, from *Münchener medicinische Wochenschrift*, June 17, 1902).

CHLORAL HYDRATE AS A VESICANT.

When a marked effect is rapidly required, chloral hydrate is better than cantharides and has none of its disad-

vantages. With children, next to iodine it is the counter-irritant of choice. The blister will produce erythema, vesication, or ulceration, as desired. M. T. Brennan (*Montreal Medical Journal*, May, 1902).

CONSTIPATION, TREATMENT OF HABITUAL.

Constipation is a disease largely the result of the artificial life of our state of civilization. Sedentary habits, irregular hours for meals, and lack of paying heed to the first call of Nature, all induce a condition of sluggish bowel movements, and gradually lead to inveterate constipation. The use of laxative and purgative remedies by patients themselves, as well as the too indiscriminate use of this class of drugs by physicians, has been in no small degree responsible for much habitual constipation and for many subsequent cases of bowel disease. In a very interesting special article by I. Boas, of Berlin, in the last volume of "*International Clinics*," this subject is treated in an able and authoritative manner. Boas states that, in his opinion, much of the frequency of muco-membranous colitis in our day, as compared with the rarity of the affection a quarter of a century ago, is undoubtedly due to the persistent use and abuse of laxative remedies. Boas gives, in the order of their value, the following methods of treatment of habitual constipation: Prophylactic, dietetic, mechanical, electrical, thermic, and medicinal. We emphasize that the medicinal means are to be last employed, and call attention to the fact that the prophylactic and dietetic management are by all means the most important. In certain families the tendency to constipation is well known, and

this must be borne in mind and guarded against in the children of these families. The routine use of laxatives in the early years of life, Boas states,—and we cordially agree with him,—is to be absolutely prohibited. There is no hard-and-fast rule which will guide a physician in treating a case of chronic constipation. Each case presents features peculiar to itself, and in its management we must first assure ourselves that no organic disease is responsible for the state of the bowels, and a thorough physical examination of the abdomen is absolutely essential. We must insist upon our sedentary patients taking a certain amount of out-door exercise, of following the dietary that we prepare for them, and that food be taken at regular intervals. Equally important is the setting apart of a certain time each day at which the patient shall endeavor to secure an evacuation. Muscular exercise in the form of well-regulated gymnastic movements, especially of the abdominal muscles, and also abdominal massage, as well as coarse brown or bran bread, oatmeal, butter, are important. The squatting position affords the greatest amount of muscular contraction of the abdomen. Boas has had excellent results in a certain number of cases by applying sudden cold to the abdomen, and he advises the use of a spray of ether for about five minutes at a time, once or twice a day, and limits the amount of the ether to about 100 cubic centimeters for each application. The dietetic management of constipation is all-important, and the physician, in treating this condition, should master the essentials of what is required. In the paper of Boas admirable suggestions are given as to the diet for such patients. We would in this connection, however, refer the reader es-

pecially to the excellent treatment of this phase of the subject by Dr. W. G. Thompson in his admirable work: "Practical Dietetics." According to Thompson, the free drinking of water, either very hot or cold, is to be recommended, as well as coarse brown or bran bread, oatmeal, butter, fresh green vegetables (such as lettuce, spinach, sprouts, rhubarb, etc.), prunes, figs, apples, either cooked or raw, peaches, berries, buttermilk, cider, koumiss, honey, and English walnuts. This list affords an ample dietary, and its intelligent use will greatly aid in overcoming the constipation. Thompson advises that such patients do without eggs, milk, sweets, pastry, pudding (such as rice and sago), fried foods, rich gravies and made dishes, pickles, cheese, tea, and sour or red wine.

Dr. Boas mentions that milk administered to patients during the rest-cure will frequently cure a long-standing constipation, and there are many exceptions, in individual cases, of certain articles of diet being either harmful or of service. We have endeavored to emphasize the well-recognized fact that the medicinal treatment of constipation is only to be employed when other means have failed, and the additional fact that the treatment of constipation is by no means a simple proposition, that success will depend upon intelligent study of the causes which underlie this state in every case and their remedy. Editorial (*Therapeutic Monthly*, July, 1902).

CORYZA, ACUTE, TREATMENT OF.

Acute coryza may sometimes be aborted in an early stage by the frequent inspiration of the vapor of "Brand's remedy," which consists of:—

℞ Acid. carbol. pur.,
 Ammon. liq., of each, 5 parts.
 Alcohol (90°), 10 parts.
 Aq. destill., 15 parts.

Or by a single intranasal spraying with:—

℞ Ichthyol, 5 parts.
 Alcohol,
 Ether, of each, 50 parts by weight.

The most rational abortive treatment is, however, to paint the Schneiderian membrane with a vasoconstrictor, such as cocaine, or, still better,—because its action is more prolonged and equally intense,—with an aqueous extract of suprarenal capsule. Vacher, of Orleans, has, by this treatment, frequently suppressed a cold within a few hours. The hyperæmia of the mucous membrane soon disappears, and with it the symptoms of coryza. The crystalline hydrochloride of adrenalin, isolated by Takamine, is equally efficacious. The commercial solution is of a strength of 1 in 1000, but solutions of 1 in 5000 or 1 in 6000 are sufficiently powerful. Perhaps the surest way to abort a cold is to paint the mucous membrane two or three times with suprarenal extract or a solution of adrenalin, and to inhale Brand's remedy frequently in the intervals. When a cold has once developed, much may be done to relieve the headache and the sensation of nasal obstruction. The symptoms improve at once if the mucous membrane is sprayed every two or three hours with a tepid, 1-per-cent. watery solution of cocaine, or, still better, with hydrochloride of cocaine and menthol, of each, 5 parts; dissolved in 100 parts of liquid paraffin. Even in cases of chronic coryza painting the mucosa with adrenalin or suprarenal extract greatly assists the restoration of nasal permeability. Spiers believes that 'the abundant nasal discharge is largely

kept up by reflex irritation. He therefore treats coryza by post-nasal insufflations of orthoform, and claims to have had good results. Early treatment of coryza is both curative and prophylactic, and may frequently prevent extension of the process to the sinuses or middle ears. Pognat (*British Medical Journal*; *Revue Médicale de la Suisse Romande*, May 20, 1902).

DIPHTHERIA.

In the epidemic of diphtheria at Colchester during 1901 one of the most marked features was the fall in case-mortality at the isolation hospital after the routine use of antitoxin. Previous to July 16th antitoxin seems to have been employed only in the bad cases, and the mean case-mortality during this period was 25.9 per cent., while during the same time the mean case-mortality among patients treated at home was only 10.8 per cent. From July 16th onward antitoxin was administered as a routine measure. There was immediately a remarkable diminution in the case-mortality, and for all the cases up to the end of December the mean case-mortality became 5.8 per cent. It is notable that the case-mortality among the cases treated at home during the same period not only did not diminish, but was rather higher than before, viz.: a mean of 14.5 per cent. The diminution in the number of deaths, therefore, at the isolation hospital was not due to a diminution in the severity of the disease, but must be ascribed to the use of antitoxin; it was, moreover, abrupt, and coincided exactly with the administration of antitoxin.

Bacteriological examination of the throats of the school-children proved of considerable value in controlling the epidemic. All children coming from

houses in which a case of diphtheria had occurred were examined, and were not admitted to the various schools until notified as being free from diphtheria bacilli. As regards the Hofmann bacillus, the opinion is expressed that it has no relation with the true diphtheria bacillus. Diphtheria bacilli were found to persist for a long period in the throat: in healthy children who had not been attacked up to ninety-four days, among those who had suffered from an attack up to eighty-seven days. Graham-Smith (*Journal of Hygiene; Treatment*, May, 1902).

Treatment.—A valuable adjunct to the injection of antitoxin serum is believed by E. W. Saunders (*St. Louis Courier of Medicine*, April, 1902) to exist in the administration of pilocarpine. The benefit is supposed to depend upon the stimulation of the excretion of the toxin which the drug induces and the increase of the leucocytes. The specific action of the antitoxin is manifested in a varying interval, which ranges from twelve to thirty-six hours, and during this interval the organism is at the mercy of the diphtheria toxin, which may initiate a degeneration of the nerves or of the cardiac muscle. It follows that paralysis may result in spite of treatment with antitoxin, which can only neutralize the free toxin in the blood. In all cases, therefore, exhibiting an exudate or a pseudomembrane in the faucial mucous membrane pilocarpine is administered at once in doses sufficient to cause salivation and diaphoresis. In any case in which diphtheria is at all suspected a culture should be at once taken and a dose of antitoxin injected. Special attention should be given to the antitoxin used, for it is liable to deteriorate rapidly, and should never be used unless it has been withdrawn from the animal

within six weeks. (*Medical News*, July 19, 1902.)

ECLAMPSIA, THYROID EXTRACT IN.

Series of cases of puerperal eclampsia treated by rest, pure milk diet, injections of morphine to control convulsions, and the regular administration of thyroid extract in doses of 0.30 gramme (5 grains), repeated, if necessary, every three or four hours. The symptoms, especially headache, albumin in the urine, œdema, amblyopia, etc., began to and steadily continued to disappear. Thyroid extract is also of value to prevent convulsions in women who give a history of eclamptic seizures during previous pregnancies. H. O. Nicholson (*La Semaine Médicale*, May 21, 1902).

EPILEPSY AND NEURASTHENIA.

In the course of an article entitled: "A Plea for the Simpler Medicinal Treatment of Chronic Nervous Diseases," the writer states that the best treatment of epilepsy is to put the system in such a condition that excitants of epileptic attacks, such as autointoxications from the gastro-intestinal tract, from fatigue, from poisonous products, which should be eliminated from the body, will not develop within the body, and also to guard against those experiences which we have learned often precipitate attacks. Also to so influence neuromotor irritability in a sedative way that discharge of energy in the shape of explosion will be less likely to occur. As to neurasthenia, the writer finds that its treatment by rest, exercise, change of environment, isolation, hydiatics, massage, diet, avoidance of deleterious indulgences, and conformation of hygienic rules is so far superior to drug-therapy that he rarely uses drugs in these cases, unless to fulfill some

pointed indication. Joseph Collins (Medical News, July 5, 1902).

ETHYL-CHLORIDE ANÆSTHESIA.

Series of experiments upon 11 dogs, and the use of ethyl chloride as a general anæsthetic in 700 cases, patients ranging from 2 months to 60 years of age, showed that the use of this drug is simple, rapid, and not dangerous. It is given upon a few layers of gauze. Narcosis follows in from 10 to 15 seconds. If the operation is to last some time, chloroform can then be used. Muscular relaxation, regular respiration, and decreased arterial tension are noted. The pulse-rate rapidly decreases with the tension, during the narcosis, and increases when the patient comes to. The liver and kidneys seem affected in spite of the short anæsthesia, albumin and bile-pigment resulting in the urine after anæsthesia. Mentally this narcosis resembles the coma of the last stages of alcoholic intoxication. It is especially indicated for short operations. It is also an excellent method with which to begin chloroformization. A. Malherbe and J. Roubinovitch (Le Bulletin Médical, June 11, 1902).

FRACTURED BONES, WIRING OF, WITHOUT A CUTTING OPERATION.

O. Lambret (Echo Médical du Nord, June 29, 1902) refers to the case of a man whose thumb had been nearly cut off by a circular saw. The proximal phalanx was severed by a very oblique cut. After the reduction of the fragments Lambret made a number of turns around them with fine silver wire, and thus held them in normal apposition until consolidation took place. In a subsequent case, one of simple fracture of the same phalanx, in a child 2 years old,

the writer made two short incisions on opposite points of the thumb, and through them encircled the reduced fragments with wire. Although the obliquity of the fracture was quite as great as in the first case, the result was all that could be desired.

As regards the second case, that of the simple fracture, it seems manifest that the incisions could have been dispensed with, wires threaded to needles being made to hug the bone, and thus the entire procedure have been made practically subcutaneous. In the case of so small a member as a little child's thumb, no doubt the increased risk of infection entailed by the incisions would be hardly more than infinitesimal, but a procedure similar to Lambret's might often be practiced in cases of oblique fracture of much larger bones, though, of course, it would not be prudent to depend upon it altogether for immobilizing the fragments and preventing shortening and other deformity; and in such cases long and deep incisions might be done away with by the employment of suitable curved needles armed with wire proportional in size to that of the bone involved. Repeated turns around the bone with one wire, as seem to have been taken in the instances related, would be wholly unnecessary, too, and objectionable as heightening the difficulty of removing the wire at the proper time. Two wires following opposite sides of the bone, their free ends being twisted together sufficiently tight to answer the purpose, would doubtless be quite as efficient. Such little devices in the management of fractures have in all probability been more than once resorted to without attracting the particular attention of the profession. We may easily conceive of their having a special value in the case of such a bone as the clavicle.

Editorial (New York Medical Journal, July 19, 1902).

GONORRHŒA, ABORTIVE TREATMENT OF.

Some cases of gonorrhœa are capable of being treated in the very early stages by an abortive method. The indications for such a treatment are that the discharge must not have been present for longer than three days, that it is not already of a thick, purulent nature, and that the urethral mucous membrane is not tender on water being passed. The cases which are especially suited are those in which the discharge is of a serous nature with only a trace of pus in it; when examined by the microscope, only a few gonococci are to be found, and these are mostly placed extracellularly. At first the writer carried the treatment out with solutions of silver nitrate, and, although fairly good results were obtained with it, other preparations have since been found to be better adapted. A 2-per-cent. solution of AgNO_3 , was used, which was allowed to remain in the urethra for from 20 to 30 seconds, after which the canal was washed out with water. On the following day a 2-per-cent. solution was used, and this strength continued during the rest of the treatment. The stronger injections were but little painful, but on the next morning the patients usually complained of considerable pain. The preparations which have given better results are protargol, albargin, and another silver body, a combination of the metal and gelatose, which is not yet in the market. The protargol was used in a 4-per-cent. solution, and the albargin in 1- and 2-per-cent. solutions. Neither appeared to irritate the urethral mucosa at all, and it was left in the urethra as long as

from 3 to 5 minutes, and the strength of the solutions was not lessened on the second day of treatment. This abortive treatment has been successful in curing 40 per cent. of personal cases, but the injections should not be discontinued as soon as the discharge has ceased; usually this occurs after the second day, but it will be found on careful examination that there are still some pus-cells in the urine, which disappear on the fourth or fifth day. The injections should be continued for a few days longer. In those cases in which the treatment proves of no avail, no harm is done by the attempt to shorten the attack. In recommending this procedure the author admits that he is not advocating anything new, but is merely suggesting a new adaptation of an old method. The progress of every case of gonorrhœa should be gauged by regular microscopical examinations of the discharge. A. Blaschke (Berliner klinische Wochenschrift, May 12, 1902).

GONORRHŒAL ARTHRITIS.

Gonorrhœal arthritis is a joint infection due to a specific micro-organism or the toxic products of the same, transmitted through the blood to an articulation susceptible to infection either from previous traumatism or an inherent lack of resistance. The term gonorrhœal rheumatism is a misnomer, both as regards diagnosis and treatment, and should be totally abandoned. Anti-rheumatic remedies, although they may relieve pain, will not kill the infecting organism, and are useless. A joint infection may take place either coincidentally with or several weeks after the apparent cure of the specific urethritis. If the joint is tapped early, the diplococcus will be found to be present; later it may have died. Diagnosis depends

largely upon the microscopical examination and the laboratory culture. The only rational treatment is the prompt removal of the infecting micro-organism by arthrotomy and free irrigation with antibacillary fluids. De Forest Willard (*Therapeutic Monthly*, July, 1902).

GYNÆCOLOGY, RECENT ADVANCES IN.

Gynæcology has advanced more than any other department of medicine during the last twenty-five years. The most startling recent innovation is spinal cocaineization. This started out to become very popular, but of late nothing has been heard of it. It is not so harmless as is claimed. Besides this danger, it has very unpleasant symptoms, such as severe headache, vertigo, vomiting, and involuntary defecation. That the patient is conscious is also a very grave objection, especially in nervous and hysterical women. The form of anæsthesia now in greatest favor is nitrous-oxide gas followed by ether. The results are exceedingly satisfactory, much less ether is used, and the effect on the lungs and kidneys is not so marked. Antiseptic solutions should be banished from operating-rooms. The disinfection of the hands having been found to be almost impossible, rubber gloves are employed. A perfectly aseptic and absorbable ligature must always be a *desideratum*. Catgut and kangaroo-tendon are the best. Catgut can be rendered absolutely sterile by the Bissell method without destroying its strength. In this the gut is soaked in a solution of bichloride of mercury in ether, varying the period of immersion to the size of the gut. It is then boiled in alcohol to extract the bichloride. Organotherapy has occupied a great deal of attention. Thyroid extract in certain uterine conditions gives good results, espe-

cially in the case of fibroids and in certain cases of menorrhagia. It might be used also in tumors. Ovarian extract does not seem to be of much account. Transplantation of the ovary is possible, and pregnancy has followed in some cases. Mammary extract has not given satisfactory results. Adrenalin, both internally and as a local application, hypodermically or mixed with salt solution for hypodermoclysis, seems to be a real addition to the materia medica. Silver in the form introduced by Credé is an antiseptic, and is very powerful in its action and harmless to the system of the patient. The allotropic form (collargolum) has many advantages over the soluble preparations. In the form of Credé's ointment some striking results have been reported. The Germans recently recommended the introduction of live steam into the interior of the uterus for the prevention of hæmorrhage. This should be done after full preliminary dilatation, and is applied from fifteen to twenty seconds. Great care must be taken, as the action may be so deep as to cause entire obliteration of the uterine cavity. It is also recommended in fibroids, menorrhagia, subinvolution, and hæmophilia. As to the matter of operations there is nothing positively new. The operation for prolapse seems to be the same. Ventral fixation by which the uterus is fastened into, and not upon, the abdominal wall seems to effect an absolute cure, but is only applicable to women who cannot bear more children. The same is true of vaginal fixation. The question as to when and how the uterus should be removed in cancer is still unsettled. In operations for the appendages a new method of hæmostasis has recently been employed. Instead of tying the vessels they are crushed with the angiotribe. The method, however,

seems to be unreliable. A considerable advance has been made in diseases of the bladder. Cancer of the rectum has been unsatisfactorily treated. Edebohls removed the uterus in order to get room and then resects, while the author, after separating the rectum below and above the growth and removing the cancer, unites the ends with a Murphy button. There is little new in the treatment of suppuration of the pelvis. When suppuration follows labor, the abdomen should not be opened; it should be attacked from below. Drainage is still in doubt. Some advocate drainage through the abdomen, others through the vagina, while others omit it. M. D. Mann (*Medical News*, July 5, 1902).

HÆMOPTYSIS, TREATMENT OF.

There are few conditions in medicine which require so much presence of mind and correct judgment as does the occurrence of a hæmorrhage in tuberculosis, for it is not only the loss of blood, with its symptoms, but also the extremely depressing effect which this catastrophe has upon the usually hopeful patient that require tactful management. A. R. von Weismayr (*Wiener klinische Rundschau*, April 20, 1902) states that the hæmorrhages are due to aneurismal dilatation of the blood-vessels where they lack support in the walls of a cavity, or else are dependent upon changes in the vessel-walls themselves. Most often branches of the pulmonary artery are involved. Very often a latent tuberculosis manifests itself first by an hæmoptysis, after which the process becomes more acute; conversely, it may have a salutary effect in that it brings the patient to the physician. Hæmoptysis occurs in about 30 per cent. of the cases; fatal hæmorrhage occurs in 0.15 per cent. There is no

direct relation between the frequency of hæmorrhage and the intensity of the disease, since, in addition to the stage of cavities, it occurs most often in the initial period and has also been seen when complete cicatrization has already set in. The blood lost varies within wide limits; the largest amount recorded is 9250 cubic centimeters in one and one-half months. It injures the body not only in general by the anæmia it causes, but also injures the lung directly by infiltrating and compressing the air-cells and perhaps by bringing about an aspiration pneumonia. Fever occurring after hæmoptysis is generally an unfavorable symptom. Concerning treatment, an occasional streak of blood calls for no interference; if, however, this occurrence repeat itself frequently, absolute mental and bodily rest should be ordered; the patient should be put on fluid diet and the cough diminished by a narcotic. For large hæmorrhages posture (elevated thorax) is of importance. Every attempt is to be made to influence the patient psychically to remove that mental agitation which predisposes to further accident. By means of an ice-bag over the heart and by tying off the extremities the pressure in the pulmonary circulation is diminished, but care must be taken to relieve the venous stasis in the arms or legs only gradually when pain is felt, else the sudden rise will be followed by a new hæmorrhage. In general, morphine does little good in the more severe forms. The same may be said of the hæmostatics with the exception of oil of turpentine, and even gelatin should deserve little popularity. The expectoration of the exuded blood is rarely necessary, except when suffocation is feared. It is best to put the patient on cold milk during the

dangerous period, to keep the bowels open with enemata of plain water, and not to let him get up until the sputum has been free from blood for three days. (Medical News, July 19, 1902.)

HIP-JOINT, DISARTICULATION OF.

This operation is resorted to more often at children's than at general hospitals, because the three conditions most commonly demanding it—advanced hip-joint disease, sarcoma of the periosteum of the femur, and septic osteomyelitis—are more frequent in children. The author gives the technique of his method, which is (1) opening the crural sheath and ligating the common femoral vessels; (2) cutting the limb, including the femur, off square at a point just above the middle of the thigh; (3) enucleating the remaining part of the femur through an incision running down on to the bone from the top of the great trochanter. If the amputation be done for tuberculous or septic inflammation, the periosteal and muscular attachments to the femur are separated with a raspator; if for peripheral sarcoma, the knife must be used and kept well away from the bone. Edmund Owen (Lancet, June 28, 1902).

HYPERCHLORHYDRIA.

All kinds of alkalies can be used in this affection. Calcined magnesia and magnesium ammonio-phosphate neutralize four times as much acid as does bicarbonate of sodium. The following are serviceable:—

℞ Sodii bicarb.,
Magnes. ust., of each, 20.0 (3v).

M. Sig.: Half to one teaspoonful three times a day, two hours after meals. Or:—

LABOR, TRAUMATIC EFFECTS OF.

℞ Sodii bicarb., 20.0 (3v).
Magnes. ust.,
Magnes. ammonio-phosph., of each, 10.0 (5iiss).

Directions as above.

When constipation exists one may use:—

℞ Magnes. ust.,
Pulv. rhei, of each, 7.5 (5ij).
Sod. carb. exsicc.,
Sodii bicarb.,
Eleosacch. menth. pip., of each, 15.0 (5iv).

M. Sig.: Half to one teaspoonful three times daily, two hours after meals, in water or Vichy.

The alkaline treatment can be continued for very long periods without any ill effects whatever. With sleeplessness, headaches, excitability, etc., one may prescribe:—

℞ Stront. bromid., 12.0 (5iij).
Aq. menth. pip., 60.0 (3xv).

M. Sig.: One teaspoonful in milk twice daily at meal-time.

The bromides should not be given continuously for longer than a week. In protracted hyperchlorhydria the direct application of the electric current to the inside of the stomach is frequently of the greatest benefit. M. Einhorn (Medical News, July 26, 1902).

LABOR, TRAUMATIC EFFECTS OF, ON THE CHILD.

There are two forms of hæmatoma, the external and the internal. The effusion in the first variety never extends beyond a suture or fontanelle, since the bleeding only takes place between the periosteum and the bone, where the former is loosely attached, and thus becomes limited by the marginal attachment of the membrane. It

may be of considerable size and is painless; there is a soft swelling, which is surrounded by a hardened, wall-like edge, and often gives the impression of a hole in the bone in the center. The most frequent seats are the right parietal bone, then the left, while the occipital, the frontal, and the temporal bone areas are comparatively rarely affected. In many cases the birth is easy, and the condition producing the bleeding is supposed to be continued and free rubbing, backward and forward, of the soft parts over the cranial bones, thus tearing the attachments between the periosteum and the bones. The internal form takes the shape of an epidural hæmorrhage. It is frequently associated with the external. Next to these hæmorrhages the writer deals with cerebral bleeding. Whenever a newborn infant presents a marked degree of asphyxia after normal birth, when the asphyxia does not disappear on appropriate treatment and when asphyxia appears after birth without sufficient apparent cause, one must think of hæmorrhage in the brain. It occurs most often after forceps delivery and when there is some visible impression, but these are by no means necessary conditions. The symptoms are: sopor, insufficient respiration, and more rarely bradycardia, increased tension of the fontanelles, miosis, and strabismus, while hemiplegia and convulsions are common. None of these symptoms, however, are constant. Lumbar puncture at times may help to clear up the diagnosis. The seat of the hæmorrhage is generally subdural or subarachnoid on the convexity, but sometimes it is situated on the surface of the cerebellum or at the base. Although the prognosis in a certain number of cases is bad, in the majority it is good, and one may look for complete recovery. H.

Finkelstein (Berliner Klinik, June, 1902).

LARYNGEAL TUBERCULOSIS, TREATMENT OF.

Of forty cases, the writer was able to follow twenty-eight to the end, and, deducting from this number five cases still under treatment, all of them eventually terminated fatally. Still, there is much which can be done for the local condition both palliatively and curatively; the pain, hoarseness, and difficulty in swallowing can be removed, and at times the process can be healed in the larynx, although the concurrent affection of the lungs goes on, and ends only in death of the patient. In dealing with the local methods the author first turns his attention to the endolaryngeal operative interferences. The necessary conditions for a possible success by endolaryngeal methods are: good general nutrition, little lung affection, local changes of a particular kind and marked limitation, and minimal subjective symptoms. The chief objection to all extensive operations performed from within is that the field of view is difficult to control, as one has to work with monocular vision. On the other hand, external operations are but little adapted to the processes, and the author does not think that one should include partial or total extirpation of the larynx among the operations for laryngeal tuberculosis. Tracheotomy is also but ill fitted to the needs of the disease, and is not to be recommended. Granulation tumors and other forms of growths met with in this condition should be removed with the snare or scissors (that is, cutting forceps). Infiltration and ulceration is best dealt with by the use of a single or double curette. In this way the author has been successful in getting larynges, showing considerable amount of

changes, to heal up entirely. Many of the patients are extremely sensitive and nervous, and it is often inadvisable to attempt much operative treatment, but almost as good results can be obtained by medication. The best means of dealing with tuberculous ulceration of the larynx in these cases is to apply lactic acid; this is done by rubbing a solution (50 per cent. to concentrated solutions are used) of the acid on to the ulcerated part by means of a pledget of wool on a sponge-holder; the acid will be found to act only on the diseased tissue. In dealing with infiltration one should use the curette first. Sometimes lactic acid produces much pain, and then it will be found advantageous to use parachlorphenol instead, in 5- to 20-per-cent. solutions. Oil of menthol is also very useful in dealing with tender throats; it is to be injected into the larynx, and, as some of the fluid is carried into the trachea and thence into the lungs, it has the advantage of exercising a beneficial influence on the pulmonary symptoms. There is another preparation which has much to recommend it: this is the new orthoform, or "nirvanin." Apart from its antiseptic action, it checks the secretion, and, above all, acts as an anæsthetic. One either insufflates the powder or applies a 10-per-cent. solution. The author has a good word to say about jodal, aristol, and hatocresol, although he finds that iodoform in the form of an insufflation is often accompanied by unpleasant side effects. Of the inhalations the author says that they appear to act more on the lungs than on the larynx, but believes that some of them are of distinct value. Special attention is called to the fact that these forms of treatment are only of real use to comparatively early cases, and anything like energetic treatment of these cases in which the days of

the patient are numbered regarded as not only useless, but actually causing unnecessary torturing to the patient. In suitable cases very satisfactory results obtained, as far as the local process was concerned, but the author not infrequently saw recurrences of the local and steady progress of the pulmonary condition. R. Freytag (Münchener medicinischer Wochenschrift, May 13, 1902).

MALARIA, ETIOLOGY OF.

Series of experiments upon the artificial transmission of malaria by the mosquito led the writer to conclude that healthy persons can be infected by the sting of the *Anopheles* mosquito which has been allowed to suck blood containing crescents capable of further development, if the insects be kept in a thermostat under suitable conditions. The sting of a single insect is sufficient to infect. Since all persons experimented upon acquired malaria, the question of an immunity could not be settled. The time between the inoculation and the appearance of the first symptoms varied from seven to eleven days, and the statement of certain authors that malaria can be acquired in so short a period as half an hour is discredited. In no case did the disease begin with a definite chill, but the fever, at first slight, gradually increased in intensity, which seems to show that a constant multiplication of the parasites is going on in the blood and that a large number is necessary for a chill. The variations in the period of incubation did not necessarily stand in relation to the number of *Anopheles* by which the individual was bitten, but other unknown factors must be drawn into consideration. During incubation absolutely no subjective symptoms were noticed. The condition of the spleen

was not constant; in some it was swollen before the first rise of temperature; in others it could be felt only after the fever. The type of the malaria artificially induced always resembled that of the patients from which the mosquitoes were allowed to obtain their crescents, and the same parasites were always found. The peripheral blood at the beginning of the illness never contained any crescents. S. Purjesz (Wiener klinische Rundschau, April 20, 1902).

MENINGITIS, ACUTE; ANTISYPHILITIC TREATMENT; RECOVERY.

The following case is of interest because of the experimental evidence adduced to prove the diagnosis and confirm the clinical observations. A man, aged 29, was attacked by violent headache and vomiting. His father died from tuberculosis; one sister, still alive, was tuberculous; and another sister had lost a child from meningitis. His personal history was uneventful, and minute examination did not reveal any signs of syphilis. During several weeks he had been morose and depressed. For a month there had been severe headache; this was localized in the right frontal and occipital regions. It was continuous, but frequent nocturnal exacerbations of severe pain prevented sleep. Five days before admission to the hospital on October 2d the patient commenced to vomit. All food ingested was immediately ejected without effort, without pain. The early morning vomit was tinged with bile. Until October 9th the condition was unchanged. On that day drowsiness and torpor supervened, and the pulse was very slow and dicrotic (50 per minute). Constipation had persisted for several

days. On October 12th the temperature was 38.4° C. (101.2° F.), and the pulse 80. On the 14th Kernig's sign was present, the temperature 37.8° C. (100° F.), and the pulse 114. The patient either responded to questions in short monosyllables or did not answer at all. On October 15th all the symptoms of meningitis were present. An injection of "*d'huile bi-iodurée*" (bi-iodide of mercury) was now given, and continued daily until November 7th, and 45 grains of potassium iodide were given daily. On October 18th consciousness was regained, and the general signs were less marked. During the following days the symptoms progressively ameliorated, and on November 7th the headache, etc., had entirely disappeared. There was, however, distinct inequality of the pupils, although the Argyll-Robertson sign was not present. The man resumed his usual occupation. Two months later the cephalalgia returned. The pupils were still unequal, and, in addition, the reflexes on the left side were exaggerated. Neither the Argyll-Robertson nor Babinski sign was present. The bi-iodide treatment was at once resumed, and five days later the symptoms had disappeared. On October 4th, 10th, and 14th lumbar punctures were made; 4 cubic centimeters of the cerebro-spinal fluid were centrifugalized, and microscopical and bacteriological examinations were made. There was distinct hyperleucocytosis, consisting principally of large mononuclear cells, but no micro-organisms. On October 10th two guinea-pigs were inoculated with 8 and 12 cubic centimeters of the cerebro-spinal fluid, respectively, but neither presented, some weeks after inoculation, the least lesion of tuberculosis. What could be the cause of the meningitis? There had been no

previous hysterical attacks, and the rapid recovery of the patient and the negative results of the inoculations were against tuberculosis. In spite of the absence of any chancre it appears reasonable to ascribe the cause to syphilis. Moreover, Sicard and Monod have determined the constituents of the leucocytosis in syphilitic meningo-myelitis, and Babinski and Nageotte have shown that leucocytosis is frequent in the course of acquired syphilitic meningitis. In cases of meningitis of doubtful origin, particularly if tuberculosis is absent or the patient has had opportunities for contact with syphilis, the combined mercury and potassium iodide treatment should certainly be tried. F. Widai and L. le Sourd (*Bulletin et Mémoires de la Société Médicale de Paris*, p. 127, 1902; *British Medical Journal*, July 19, 1902).

NASAL AND AURAL DOUCHES AND IRRIGANTS.

The solution should always be a solvent of the substance to be removed. The reagent should be itself readily soluble in water and in a clear solution. It should be non-irritating to mucous membranes and sensitive surfaces. To insure thoroughness it should possess the power of penetrating the surface of tissues. It should be chemically compatible with the most effective antiseptics. It should be economical in cost and readily available everywhere. Of these elements the most important is that of dissolving the discharge. There are many solutions in use which have no such action, but really precipitate and harden the substance which they are intended to remove. Therefore a knowledge of the nature and composition of discharges must be possessed; a brief survey of this question is

the following: They are either (1) catarrhal, (2) serous, (3) purulent, (4) ceruminous and cholesteatomatous, or (5) fibrinous and hæmorrhagic. Catarrhal products as commonly met with in the nose, naso-pharynx, and less frequently in the ear may be viscid or inspissated even into crusts. From mucosæ the fluid consists of an alkaline solution of mucin, globulin, serum-albumin in proportions varying with the intensity and nature of the morbid process, mechanically suspended epithelial cells in varying degrees of mucoid degeneration, and leucocytes and various bacteria. Of the organic elements, mucin is readily soluble in weak alkaline solutions of bicarbonate of sodium (0.5 to 1 per cent.), but insoluble in acids, while the cells and serum-globulin are soluble in weak solutions of neutral salts, together with the nucleo-albumins of the cells. Albumin itself is soluble in water. The serous discharges rarely call for special removal except when localized. In them globulin occurs in greater proportion than mucin; therefore neutral saline solutions should be selected. Pus will obviously vary according to the conditions of production and duration of retention. It may be thin, thick, solid, caseous, sweet, or foul, etc. Hoppe-Seyler gives, in 100 parts of dry pus: proteids, 16; nuclein, 34; fats and lecithin, 14; cholesterol, 7; cerebrin, 5; extractives, 4; and insoluble substances, 20. Halliburton gives nucleo-albumin, cell-globulin, albumoses, and peptones as the chief constituents. In the fluid part serum-globulin with small quantities of serum-albumin and albumoses will be found, while the organized solid or cell-elements, like leucocytes, connective-tissue fragments, etc., will yield nucleo-albumin, cell-globulin, and nuclein; also fats, lecithin, cholesterol, etc., in varying degrees of fatty or

other degeneration. All these are soluble in weak solutions of either neutral or alkaline salts, respectively. Cerumen varies from a thick, molasses-like consistence to that of a firm plug more or less mixed with epithelial cells, hairs, parasites, dust, and other matter. Being fatty in nature, it is readily soluble in alkaline salts, but, as the contact with an irrigant is so short and the plug so dense, softening by means of a strong alkaline solution, preferably in glycerin, is often a preliminary to the douche. Cholesteatomata consist of closely-packed, laminated, squamous epithelium, with fatty granules and cholesterin crystals. The cells will yield much keratin and nuclein. Both with the fat are soluble in alkalies. Sometimes, as in middle-ear suppuration, the epithelium is mixed with pus; if so, the neutral salts also should be used in combination. Plastic exudation consisting chiefly of fibrin entangling leucocytes in its meshes is extremely difficult of solution and rarely admits of more than a softening process in neutral and alkaline salt solutions, such as sodium sulphate, calcic hydrate, etc. This applies also to blood-clot, which is, however, less dense, and frequently much more readily removed by similar irrigants. Knowing the nature of the discharge and the solvents of its chief constituents, there should be little difficulty in selecting an efficient irrigant for both chemical and mechanical action. The following will be of advantage as showing solvents and precipitants:—

Solvents: sodium sulphate (from 1 to 2 per cent.); potassium (from 1 to 2 per cent.); magnesium (from 1 to 2 per cent.); ammonium (from 1 to 2 per cent.); sodium bicarbonate; sodium chloride; sodium hydrate; sodium biborate; sodium sulphocarbonate; calcium chloride; calcium hydrate; potassium

hydrate; potassium carbonate; chinosol.

Precipitants: water (except albumin); mercury biniodide; mercury perchloride; alum; zinc chloride; zinc sulphate; zinc permanganate; potassium permanganate; hydrogen peroxide; formalin; carbolic acid; boric acid; liquor sodii chloridi; liquor carbonis detergens; izar; alcohol (fats excepted); sulphurous acid.

As of general service the writer recommends the following formulæ:—

1. Sodium sulphate, from 1½ to 3 drachms; water, to 1 pint (20 fluid-ounces), from 1 to 2 per cent.
2. Sodium sulphate, from 1½ to 3 drachms; sodium bicarbonate, 40 grains; water, to 1 pint.
3. Sodium sulphate, from 1½ to 3 drachms; borax, 40 grains; water, to 1 pint.
4. Sodium sulphate, from 1½ to 3 drachms; sodium bicarbonate, 40 grains; glycerin of carbolic acid, 45 drops; water, to 1 pint. [NOTE: Instead of glycerin of carbolic, absolute phenol, 9 grains, or No. 1 carbolic acid may be used. Heat to 165° F.]
5. Borax, 40 grains; bicarbonate of soda, 40 grains; glycerin of carbolic acid, 45 drops; water, to 1 pint (diluted Dobell's solution).
6. Sodium sulphate, 1½ drachms; chinosol, 10 grains; water, to 1 pint.
7. Sodium sulphate, 1½ drachms; sanitas, 3 fluidrachms; water, to 1 pint.
8. Sodium sulphate, 1½ drachms; perchloride of mercury, 2 grains; water, to 1 pint (1 in 5000).
9. Sodium sulphate, 1½ drachms; red iodide of mercury, 2 grains; sodium iodide, 2 grains; water, to 1 pint.
10. Sodium sulphate, 1½ drachms; potassium permanganate, 2 grains; water, to 1 pint.
11. Sodium bicarbonate, 40 grains; potassium permanganate, 2 grains; water, to 1 pint. [NOTE: Borax (40 grains) may be used instead of

sodium bicarbonate.] 12. Solution of calcium chloride (P. B.), 6 fluidrachms; water, to 1 pint. [NOTES: The pure exsiccated sulphate of sodium should always be used in preference to the ordinary crystalline salt. Bicarbonate is preferable to carbonate of sodium. Hot water whenever convenient should be employed to make the solutions. Solutions of phenol should be heated to 155° F. No. 1 is a simple irrigant for pus; Nos. 2 and 3, when mucus is present or when the discharge is inspissated; Nos. 4, 5, 10, and 11 for inspissated foetid mucus or "crusts"; Nos. 6, 8, and 9 as antiseptics; and Nos. 7 and 10 as deodorants. No. 12 is chiefly employed for its hæmostatic property.] In addition to purely mechanical use a douche may be required for antiseptic purposes. Unfortunately the most valuable antiseptics are precipitants of proteids, and therefore not thorough irrigants; consequently, it is more often expedient to irrigate first with the solvent and to use the antiseptic afterward, as in a case of suppurative middle-ear disease. This need not, however, always be done, since biniodide of mercury, phenol, chinolol, and many powerful antiseptics are not only miscible in pure sodium sulphate, but when mixed do not precipitate proteids so readily as would a plain solution of the antiseptic. This is a property of no slight importance. Similarly potassium permanganate may be combined with sodium bicarbonate or baborate. Chinolol mixed with sodium sulphate affords not only a clear solution, but one of high sulphate or antiseptic properties. Its great disadvantage is cost. The writer protests against the use of popular formulæ which combine thymol, eucalyptol, menthol, and other aromatics with various inappropriate salts as antiseptic

douches, because they are not only extremely irritating to mucosæ, especially the nasal, but their solvent and antiseptic properties are matters of doubt. They are really only deodorants. In atrophic rhinitis a very good, economical, and active douche is ordinary sea-water. It should be boiled well, decanted, and used warm at a temperature of from 60° to 70° F. A pinch of sodium bicarbonate to the pint may be added when the crusts are very firmly adherent. When employed for diagnosis, douches must be transparent and colorless; hence creolin, izal, permanganate, etc., are to be avoided. It is also inadvisable to employ any precipitant, like bichloride of mercury, for exploratory irrigation. The writer adds a word as to the method of employing and the special instruments for douching. The special purpose of the douche and the question of whether it is for use by surgeon or patient are important factors. This distinction is by no means unimportant, because a patient rarely knows the possibility of infection and the importance of perfect cleanliness. In this case he is, perhaps, not entirely to blame, because the ordinary apparatus at his disposal—for example, the rubber ball, glass, or metal syringe—is, without doubt, the most dangerous weapon ever employed. An ocular, olfactory, or bacteriological examination of the interior of any such instrument would emphasize this question greatly. The cause of this is obvious, because no apparatus filled at the mouth which comes into contact with a dirty wound can escape contamination of its interior, except through special care, which cannot be expected of an ordinary patient. In the case of aural and nasal douches the application to the nozzle of a short piece of rubber tubing,

which can be renewed and removed and sterilized greatly reduces the risk of infection or injury during use. The ordinary hydrostatic douche is not liable to infection in this particular way, but is a clumsy instrument, and not advised for delicate, deliberate work in aural cleansing, since it admits of but slight variation in volume and pressure. Grant's modification of the piston syringe is thoroughly efficient in guarding against infection by being fitted with a two-way cock which admits of filling through a separate channel. It is very difficult, however, for the patient to use it himself. The aseptic douche of the author is much more efficient for the patient to use; it closely resembles the well-known Davidson hand-ball syringe, and gives force, direction, and volume to fluid directly under control, inlet and outlet valves compelling it to be filled only from the distal end. It is wide in application, especially valuable in ear diseases which require great care in auto-irrigation, and in those forms of rhinitis demanding a copious douche. W. Wingrave (*Lancet*, May 17, 1902).

NEURALGIA, TREATMENT OF, WITH CASTOR-OIL.

Series of cases of severe neuralgia in which castor-oil brought about a speedy cure. It should be given in doses of from 1 to 2 ounces three or four times daily, although in some cases good results have been obtained with smaller doses. After the first two or three doses it usually loses its cathartic effects. We should guard against its too free cathartic action by sufficient doses of opium in some form, as it is the constitutional, and not the local, effect that it is desired to produce. It is best given (after having been thoroughly washed, and a few drops of some aromatic es-

sence added) either in milk with effervescing Seltzer water, or in ale, especially Bass's ale. A palatable mixture can be made by combining the oil with mucilage of acacia and lime-water. It should be thoroughly shaken before given. It may also be given in hot lemonade. The writer extols this simple remedy, which has given results in neuralgia never obtained by other methods. F. W. Waxham (*New York Medical Record*, April 12, 1902).

PERITONITIS, TUBERCULAR.

Conclusions as to prognosis: The mortality when based on the condition of the patients at discharge, in a series of 98 cases of tubercular peritonitis at the Massachusetts General Hospital, is 13.2 per cent. The mortality of the same series of cases after a period of from two to eleven years is, on the contrary, 47.3 per cent. The ultimate mortality of patients in this series under medical treatment is 68 per cent.; under surgical treatment 37.5 per cent.; 2 patients have had recurrence, but are now well. None of the other patients at present report themselves as suffering from the disease.

The main therapeutic lessons derived from the analysis are as follows:—

1. Tubercular peritonitis may be followed by apparently complete recovery, even if complicated by tuberculosis elsewhere, either under (a) purely medical treatment; (b) tapping; (c) incision.
2. As in other forms of internal tuberculosis, the best obtainable hygienic surroundings are all-important. Consequently no patient should be kept in the hospital longer than is necessary, especially if more and better air can be secured outside with proper care and food.
3. We are warranted in trying medical treatment for a time, especially un-

der first-rate hygienic conditions, tapping the abdomen if there is sufficient fluid to cause discomfort.

4. If the patient under a month or six weeks of medical treatment fails to improve, or in even less time if he seems to be losing ground, surgical treatment should be advised. F. C. Shattuck (*American Journal of the Medical Sciences*, July, 1902).

PLEURISY WITH EFFUSION.

All cases of acute pleurisy with effusion require rest in bed for limiting the inflammation as far as possible; hot applications of linseed or linseed and mustard poultices, belladonna fomentations, etc., for pain; strapping of the affected side for limiting respiratory movements and thereby decreasing discomfort; leeches, now often discarded, but really useful for decreasing local congestion. When exudation appears, the surfaces of the pleura separate and the pain decreases. As soon as this occurs it is important to give a saline aperient like magnesium sulphate or sodium sulphate in large doses each morning for a number of mornings. Sodium salicylate, 20 grains three times a day, is often valuable, and it has been found in large quantity in the effusion itself on chemical examination. After the acute part of the attack is over at the end of the first seven or ten days iodine is of service in aiding the absorption of the liquid by the lymphatics: tincture of iodine in 5-drop doses, iodide of potash in 5- to 10-grain doses, and iodoform in from $\frac{1}{2}$ - to 1-grain doses. Oleate of mercury (10 per cent.) may be rubbed into the affected side each day. Hays's method of restricting the patient to $\frac{1}{2}$ pint of fluid in twenty-four hours, while from $\frac{1}{2}$ to $1\frac{1}{2}$ ounces of salts in concentrated form are

given each morning an hour before breakfast, is highly recommended by Osler. The question of aspiration is very important. Under certain conditions it should be done without delay. In all large effusions at any stage, with dullness all over one side of the back of the chest and up to the clavicle in front, aspiration should be done at once. It should never really be deferred so long, as it is better to remove some of the fluid as soon as dullness extends above the level of the fourth rib in the nipple-line in front. In these large effusions delay is dangerous, as sudden death sometimes occurs. Physical signs, however, do not always indicate the amount of fluid which is present; so that in cases in which the dullness is less than that just indicated immediate aspiration is required if there be marked dyspnoea on slight exertion, cyanosis, palpitation, irregularity in the pulse, or signs of œdema in the opposite lung. In cases in which the effusion is moderate in amount and produces no urgent symptoms there is no necessity for removing it during the first week or ten days. A moderate effusion is probably useful in the early stages of an acute attack of pleurisy, as it separates the two layers of the pleura, allows the lung to retract, and lessens respiratory movements. As a result of this the inflamed membrane is kept at rest as much as possible, and the two surfaces are prevented from rubbing against each other, and the pleura is placed under conditions which are favorable to recovery. If aspiration is carried out at this early stage, these favorable conditions are simply removed, and the object is not accomplished because the fluid is apt to return. If after ten days there be no diminution in the effusion, recovery will be hastened by aspiration; if, on the

other hand, absorption has already begun, it is usually not required. After aspiration the patient should remain in bed for at least two or three days, and after that he may get up as soon as his general and local condition will allow. The after-treatment of a case of pleurisy with effusion is of great importance, and is practically the same whether the fluid has been absorbed or removed by aspiration. The great object is to complete a re-expansion of the lung. Various forms of blowing machines and gymnastics, all of which are well known to the profession, have been devised, and under proper use most of them are serviceable. That form must be selected which seems best suited to the patient's means and physical strength. As a rule, frequently repeated gymnastics, in themselves comparatively light, are better than those which are less frequently used and in themselves comparatively severe. G. R. Murray (Lancet, May 24, 1902).

PNEUMONIA, BLOOD-LETTING AND BLISTERING IN THE TREATMENT OF.

There are two periods in the treatment of croupous pneumonia in which blood-letting might be of service: First, in the early stage for the relief of pain and dyspnœa, and, second, in the advanced stage where there is engorgement of the right heart, also associated with intense dyspnœa, cyanosis, and general venous stasis. For the first stage the writer recommends especially blood-letting by wet cupping, although venesection at the arm is also efficient. The other measures for the relief of pain, such as poultices, counter-irritation, and even full doses of morphine hypodermically are comparatively valueless for this purpose. It is especially in cases of

pneumonia associated with pleurisy—pleuro-pneumonia—that this measure is of signal service. The second period in which blood-letting is useful is in an advanced stage where there is engorgement of the right heart, which is unable to relieve itself of its burden because the lung is already engorged with blood which it cannot get rid of. This condition is indicated by intense dyspnœa; frequent, shallow breathing; and cyanosis. The blood-letting required is venesection, and it is especially valuable when associated with the subcutaneous injection of normal salt solution and with oxygen inhalations that its results follow. The writer is certain that he has seen life saved by the prudent use of venesection under the circumstances. As to blistering, he considers it serviceable for the most part only in delayed resolution. James Tyson (New York Medical Journal, July 19, 1902).

STERILE AIR, THE EFFECT OF, ON THE BODY.

There is a current belief that bacteria are essential to organic life and are at the root of many of the physiological processes taking place in the animal organism. Kianitzin, a Russian physician, claims to have made the important discovery that animals cannot survive when kept on sterile air and food. He found that they lose rapidly in weight and suffer from poisoning with leucomaines, which substances are accountable for the fatal issue. The explanation given by the author is to the effect that in normal metabolism the micro-organisms gain access to the blood, are imbibed by the phagocytes, and contribute in the formation of oxidizing ferments, without which metabolic processes cannot take place. In a very able criticism of Kianitzin's work, Favr (Russki Archiv Patho-

logii Klinitcheskoy Mediciny i Bakteriologii, vol. xiii, No. 2) points out the important defects in the author's experiments and attacks his conclusions, which he considers both unjustifiable and irrational. He shows, in the first place, that complete sterilization of the air in the bell-jars was impossible, that the control animals also lost considerably in weight, and that the content of CO_2 in the air was excessive. Following, in the main, Kianitzin's method, he performed three experiments which show that, while air sterilized by passage through heated sand acts deleteriously on the animal organism, causing death, air passed through cotton has no such effect, although it also is free from micro-organisms. The conclusions to be drawn is that heated air acquires toxic properties. Regarding the alleged essential rôle of bacteria in the production of ferments in the animal organism, Favr argues that the lungs and the blood are generally free from bacteria, as shown by Schablovski, Visokovitch, Hildebrandt, Müller, Barthel, and others. Moreover, the atmosphere in midocean, on high mountains, in the Arctic regions, and similar places remote from habitation is practically free from bacteria, and yet the travelers in these regions suffer no inconvenience. Again, the digestive ferments and the ferments in some plants are elaborated without the aid of bacteria.

It does seem that the bacteriologist in his enthusiasm has been inclined to attribute to the ubiquitous bacteria more functions than they actually possess. Without denying their important rôle in bringing about organic changes,—such as nitrification, for instance,—we may nevertheless safely assume that the production of ferments in the animal and vegetable kingdoms may well go on without the agency of bacteria. It is suffi-

cient to recall the fact that animal and vegetable cells, no less than bacteria, are subject to intrinsic metabolic processes, in which may be included the elaboration of ferments. Indeed, evidence is accumulating showing that the changes in ensilage and the ripening of cheese, usually attributed solely to the action of bacteria, are not due to micro-organisms at all. Editorial (*Therapeutic Monthly*, July, 1902).

SYPHILIS, MERCURY IN.

In primary syphilis the following principles should be followed: Treat severe symptoms of syphilis by injections of mercury alone. Increase the dose of mercury so given until the symptoms are influenced by it. The contention of the writer that the injection of mercury is better than any other means of administration is based on the belief that by it the quantity given is absolutely known: a fact not determined in administering it by inunction or by the stomach, because no one can tell how much will be absorbed either by the skin or by the digestive apparatus. The therapeutic effect of injections of mercury depends somewhat upon the dose of the drug given and also upon the form. It must be recognized that the disease in one person will not be influenced by the same quantity as would cure another. Similarly, in a given patient the dose must be slowly raised until the desired effect is reached. As a preventive of the bad results of mercury, it is recommended that early in the treatment of syphilis every patient should be sent to a competent dentist, who will cleanse and fill his teeth and instruct him in the care of his mouth. In the opinion of the writer the starting-point of all mercurial inflammations of the mouth is bad teeth and bad oral

hygiene. A dose which causes trouble when the mouth is dirty and the teeth are decayed will cease to inconvenience when these conditions are removed. The present method of giving mercury by injection is usually a single dose of large size, given once or twice a week, but this authority states that in order to gain complete and rapid control over the serious signs of this dreadful disease it is better to give a smaller dose every day for a short time, so balanced as to stop short of causing chronic mercurial poisoning. As examples of what he means the writer states that, if the stronger salts be employed (the cyanide or sublimate), doses of 0.03 or 0.04 centigramme should be given; of the weaker salts (benzoate or biniodide), practically twice the above quantities may be employed. This observer believes that the influence of mercury upon syphilis is underestimated by the profession at large; the quantity given, at least in grave cases, is too small; and therefore the results obtained from it are not always satisfactory. Leredde (*La Semaine Médicale*, No. 17, 1902).

TONSILLITIS, ACUTE PNEUMOCOCCIC.

Form of tonsillitis which, though rare, is of great importance. It was described in 1891 by Jaccoud and Menetrier, since which time several cases have been noted. The author records some fresh observations, and states that 3.7 per cent. of cases of acute tonsillitis are due to the diplococcus of pneumonia. In the uncomplicated condition this form of tonsillitis occurs in two varieties: the erythematous and the pseudomembranous. The first usually sets in with a severe rigor similar to that of pneumonia, with rapid elevation

of temperature. The throat becomes painful, red, swollen, and yellow inspissated spots appear. Usually the condition subsides in three or four days by crisis, the temperature falling from 103° to 99° F. The patient becomes rapidly convalescent. The striking feature is the intensity of the febrile phenomena, which are out of proportion to the throat lesion. Another characteristic of these cases is the duration of the disease, its rapid course, and its tendency to abort, the latter being a constant symptom. Thus, a patient to all appearances in a marked condition of pyrexia becomes rapidly better in a very short time. The pseudomembranous form begins in the same manner, and the general symptoms are similar. The difference consists in the presence of false membrane closely resembling that of diphtheria. Bacteriological examination alone renders diagnosis possible, as the pneumococcus is present instead of the Loeffler bacillus. There is the same sudden crisis and rapid convalescence as in the first form, but the course of the disease is somewhat longer, extending from five to ten days. The diagnosis of pneumococcic tonsillitis is therefore important; the sudden onset with rigor, with rapid elevation of temperature, contrasts with the more gradual onset and less severe pyrexia of diphtheria. The extension of the false membrane into the nasal fossæ and the larynx does not seem to occur in the pneumococcic form, but this fact may be difficult to ascertain, and therefore careful bacteriological examination constitutes the safest means of diagnosis. The writer points out the extreme importance of recognizing such cases, as in the event of their being mistaken for diphtheria and brought in contact with patients suffering from

this latter disease diphtherial infection may be grafted on the pneumococcus. Prognosis is, as a rule, good. Darien (Thèse de Lyon, 1902; British Medical Journal, July 19, 1902).

TUBERCULOSIS AND PHTHISIS, THE DIFFERENTIATION AND DIAGNOSIS OF.

Tuberculosis is primarily a local disease with constitutional manifestations. As Baccelli affirmed long ago, the bacillus is only the histological exponent, not the whole of the tubercle, much less the disease. Local tuberculosis has the same characteristics,—the *locus minoris resistentiæ*,—which, according to Petruschky, includes primarily all organs directly in communication with the outside world—and the proliferation of fixed tissue-cells resulting in a sequestration of the infective irritant. Pure local tuberculosis, whether pulmonary or articular, does not possess the time-honored signs of inflammation: *rubor, dolor, tumor, calor, et functio læsa*. It is quite afebrile, and it is likewise without exudation. It is in no sense a pernicious process; it is a conservative one, no other disease having a greater tendency to spontaneous recovery.

Phthisis is tuberculosis plus mixed infection. Bacteriologically it is a symbiosis of two or more pathogenic organisms acting in unison. Most frequently the staphylococcus pyogenes aureus and the streptococcus pyogenes; commonly the diplococcus of Fraenkel and Pfeiffer's bacillus play an important part; less frequently Gaffky's micrococcus tetragenus and Gessard's bacillus, as well as other pathogenic and saprophytic organisms too numerous to mention.

Phthisis, then, is tuberculosis plus a

pyæmia or septicæmia. The due appreciation of this condition is of paramount importance, for almost all the dreaded symptoms of phthisis are the result of this pyogenic superinfection. In other words, we have but the same predominant manifestations that accompany acute suppuration, acute articular rheumatism, erysipelas, puerperal fever, etc.

The staphylococcus pyogenes, from its known liquefying action upon connective tissue, is probably, in the main, responsible for the breaking down of tuberculous tissue. The diplococcus lanceolatus, the influenza bacillus, and, peradventure, the streptococcus are almost invariably responsible for the broncho-pneumonia of phthisis, as Ortnier has shown. The streptococcus pyogenes is, without doubt, the sole cause of the hectic fever and night-sweats. It may be mentioned *pari passu* that the so-called "streptococcic curve" has repeatedly been demonstrated in the fever-charts of phthisis. The bacillus pyocyaneus, as is well known, gives the characteristic greenish coloring to the sputa of consumptives.

Pulmonary tuberculosis, of itself, is manifestly without expectoration. An exudative inflammatory bronchitis of greater or less degree is essential to the production of sputa, and is always of pyogenic origin. Pure tuberculosis consists typically of closed foci, and the disintegration and degeneration of the tubercle, with the consequent setting free of the tubercle bacilli, is likewise only the result of mixed infection.

Hæmoptysis, the erosion of a radicle of the pulmonary artery, regardless of the time of its occurrence, is invariably an accompaniment of phthisis. While pulmonary tuberculosis is not characterized by expectoration, bacilli, fever, or hæmoptysis, it must not be inferred

that its diagnosis is at all difficult; quite the contrary.

Of the fifty-five hundred and odd patients sent last year to the various German sanatoria, over one-third were purely tuberculous.

The following are the physical signs and symptoms of pulmonary tuberculosis:—

Inspection.—Deficiency, impairment, or irregularity of respiratory movement upon affected side. Evident unilateral contraction. Flattening or depression of the supraclavicular or infraclavicular fossæ. Amyotrophy of the thorax. An acceleration of respiration, more particularly in women.

Palpitation.—Slight increase in vocal fremitus.

Percussion.—Defective resonance upon or above a clavicle. Want of elasticity, definite dullness, tympanitic dullness, or tympany apparent upon repeated examination.

Auscultation.—Evident changes in the respiratory murmur; it matters not whether it be diminished, weakened, rough, harsh, indefinite, sharp, rude, puerile, interrupted, or exaggerated, suffice it that such modification in the vesicular respiration is constant over a circumscribed area. Most frequently the respirations are somewhat short and slightly accelerated. Inspiration weakened or rough, and expiration somewhat prolonged. "An apical catarrh," with fine crepitation or a few localized dry rhonchi or sibilant râles, is pathognomonic.

Symptoms.—The constitutional disturbances are, as a rule, more pronounced than the pulmonary. There may be some dyspnoea upon exertion. There is no true cough, rather a reflex "hack," probably due to a small deposition upon the arytenoids or poste-

rior wall of the trachea. A clearing of the throat on speaking is often noted. A transient localized pain, the dry pleuritic stitch, or a neuralgic indefinite ache in the sternal or scapular region, or a faint sense of resonance felt by the patient in talking are usually the sole subjective symptoms attributable to the lungs.

There is a slight pallor, a peculiar duskiness or sallowness, a pseudo-anæmia or chlorosis readily distinguishable from the true by the presence of a leucocytosis; inequality of pupils; according to some, dilatation; a general dullness, weakness, or at times a disinclination to work—symptoms frequently confounded with malaria.

A carbohydrate indigestion with eructations, acid dyspepsia, capricious appetite, anorexia, gastralgia, intestinal indigestion, coated tongue, and constipation are frequently predominant symptoms. A temperature of, say, three-tenths to one-half degree under stimulus of mental excitement or slight exertion and at menstrual period. Subjective feeling of chilliness or a slight subnormal temperature during early morning. There is a small loss of weight, determinable solely by frequent weighings, not by the opinion of patient or friends. A tendency to cyanosis of the extremities, less frequently of the lips or cheeks. The pulse is characterized by considerable instability. There is increased rapidity upon trivial exertion or mental stimulus, particularly toward evening. The pulse is often of low tension, full, soft, or compressible. Tendency to sweats, not only nocturnal, but following the slightest exertion. Changes in temperament, irritability, introspection, sweating of the palms of the hands under excitement,—in women, palpitation of the heart and amenorrhœa,—have all been noted. Age,

occupation, environment, the probability of exposure to infection, and the personal and family history should be taken into consideration.

Hæmoptysis or the occurrence of bacilli in abundance, as Brieger has shown, are evidences of cavitation. Clumps of granular bacilli indicate progressive softening, while alternation of few and many bacilli signifies the occasional opening of closed cavities, with discharge of their contents. Even in phthisis one should not rely exclusively upon the presence of bacilli in the sputa, for, as Neufeld has shown that, while staphylococci and streptococci may be present in the sputa, the tubercle bacilli may be absent for months at a time, or, if present, in so small numbers as not to be readily recognized.

The thermometer is perhaps, after all, the best instrument in the diagnosis of early phthisis. If the temperature be taken every two hours, after midday, a rise will usually be noted proportionate to the progress of the disease.

Again, upon examination of the chest, in phthisis, it should be remembered, as Kingston Fowler states, that in the great majority of cases, when the physical signs are sufficiently definite to allow of diagnosis, the lower lobe is already involved.

Michaelis's diazo-reaction and Roentgen rays have proven of no utility in the diagnosis of tuberculosis or early phthisis.

The tuberculin reaction is too promiscuously present in other diseases, uncertain, unacceptable to the patient, and not entirely without danger. Further, it has been repeatedly shown that the glycerin and proteids of the culture-fluid are in themselves sufficient to produce a reaction without the tubercle bacilli extract. M. J. Brooks (*Journal of Tuberculosis*, July, 1902).

TUBERCULOSIS, GUAIACOL IN.

After having been in vogue for a certain length of time, large external doses of guaiacol recommended several years ago as a means of combating fever, especially in phthisis by Sciolla and Maragliano, have gradually fallen into disuse. The cause of this has chiefly been alarming symptoms in the form of excessive fever and collapse, to which they too frequently gave cause, but, according to the observations of the writer, these unfavorable results are due only to large doses more or less in excess of the amount habitually employed for cutaneous application, and may usually be easily avoided by following a procedure like the following: For each application 0.50 to 2 grammes, as a maximum, of guaiacol are taken and placed upon a region the dimensions of which must not be less than 30 or 40 square centimeters. Then it is well to cover the part thus treated with glass of sufficient size, and fixed to the skin by bits of adhesive plaster. Under this hermetically closed dressing the guaiacol is readily absorbed, usually within six or twelve hours, according to the quantity of the medicament taken. If these applications be carried out once a day in phthisical patients, more or less favorable influence will be the result upon the fever, the cough, the night-sweats, sleep, appetite, and also upon the catarrhal phenomena in the lungs. As a rule, these applications do not cause any local irritation; at least such are not appreciable. Occasionally it is possible to get a slight degree of redness of the skin, which will not fail to disappear under inunctions of oxide-of-zinc ointment. N. Lavrov (*Medical News*, July 26, 1902).

TUBERCULOUS MEAT, DANGERS OF.

Tuberculosis can, in animals, be transmitted by feeding on tuberculous ma-

terial, but it is a very uncertain method of propagation. The writer has carried out a large number of feeding experiments, and found that sheep, cattle, dogs, pigs, rabbits, and guinea-pigs, all exhibit a minimal susceptibility to infection through the alimentary tract. In cases where infection occurred the doses of infective material were large and frequent. The writer holds that man can be infected by milk from a tuberculous udder, but not by single doses or if the milk is cooked. The blood of infected cattle is not infected, and the muscles also very rarely contain bacilli, even when the disease is wide-spread; it would appear, therefore, that there is little or no risk attached to the eating of the ordinary meat of tuberculous cattle, even in the raw state. The writer thinks that the law as to the use of meat from tuberculous cattle is too stringent. Galtier (*British Medical Journal*; *Journal de Médecine Veter.*, Lyons, Jan. 31, 1902).

URÆMIA, DYSPNŒIC COMA IN.

Air-hunger, first described by Kussmaul, was for a long time considered characteristic of intoxication by oxybutyric acid, as it occurs only in diabetic coma. Later investigations, however, showed that a similar symptom-complex may occur in a number of other conditions, such as severe anæmia, carcinoma, cachexia, gastro-enteric disturbances, and salicylic-acid poisoning. The possibility of the dyspnœa being uræmic had already occurred to Kussmaul, but the absence of headache, slowing of the pulse, diminished diuresis, and catarrh of the finer bronchi in diabetic coma led him to consider it something different. F. Dineles (*Wiener klinische Rundschau*, April 20, 1902) has observed a case of pure uræmia in which acetone and diacetic acid

could be detected in the urine and in which a distinct diabetic air-hunger was present, while in several similar ones no excretion of acetone or allied bodies occurred. No disturbances of heart or respiration were present to explain the symptom; probably an irritation of the respiratory center existed. The character of the renal change played no part, since in his patients the various, different lesions of chronic nephritis were found; a point of importance, however, was the fact that epileptic attacks did not occur. (*Medical News*, July 19, 1902.)

UTERINE CANCER, DIAGNOSIS OF.

The writer considers an early diagnosis possible. The earliest symptoms differ, depending upon whether the disease begins during menstrual life or after the menopause. During menstrual life he compares every bleeding with what it has been in the same woman, and is suspicious of intermenstrual spotting and serous discharge. After the menopause any serous or sanguineous discharge is considered significant. He examines every woman over thirty who may exhibit any menstrual vagary or persistent leucorrhœa. Finally, he limits radical operations to those cases in which the disease is confined to the uterine tissues. Polak (*New York Medical Journal*, July 19, 1902).

VAGINAL INCISION.

The common name of vaginal puncture for the evacuation of pus from the pelvis through the vagina is misleading; it implies merely making a small opening into the abscess, whereas the operation is essentially a free incision and drainage. It would be better, as suggested by several writers, to abandon the word puncture in this connection.

It is impossible to reduce a comparatively high mortality if the abdominal route is used exclusively for pus cases, although the abdominal operation is undoubtedly the operation of election in the vast majority of inflammatory cases. In a true pelvic abscess in which the patient is in a miserable state, probably having been confined to bed for a long time before the surgeon saw her,—the pulse rapid and weak; the temperature high; the general condition weak, anæmic, and septic; and the abscess bulging directly into the vagina,—it would be a surgical folly to perform an abdominal section. Even if the condition is moderately good, vaginal incision is the operation of election in all such cases; but, if the condition is bad, it is the only operation that can be attempted with any hope of saving the patient.

One of the advantages of the operation is the speed with which it may be performed, rarely requiring more than five or ten minutes for its completion. It should be remembered that pelvic-abscess cases are frequently in a serious physical condition, and a few minutes more or less may mean the life or death of the patient; also that cases which are not septic may not stand ether well, or may have grave heart or kidney disease, or both combined. Drainage is an important factor in these cases, and is greatly promoted by gravity; it is further aided by compression of the sac with sand-bags, a method which will be detailed in full when considering the after-treatment.

The fact that vaginal incision is a life-saving measure ought never to be lost sight of; and it should be borne in mind that, if it is not curative, it does not preclude the possibility of a thorough operation later, when the patient's general health has been built up after the primary evacuation of the pus.

The shock caused by the evacuation of pus by the vaginal incision is very slight compared with that produced by a severe laparotomy, attended, as the latter often is, by considerable loss of blood, long etherization, trauma to the peritoneum, handling of the intestines, etc. There is little or no loss of blood in the vaginal operation.

Mundé speaks favorably of this operation, especially in cases of abscess in Douglas's *cul-de-sac*, and calls attention to the large percentage of pelvic abscesses which naturally point in the vagina. This fact has also been noted by Penrose. Rutherford recommends vaginal incision for certain cases in which the pus is extraperitoneal and can be easily reached through the vagina. Berry calls attention to the necessity for free drainage. Reynolds reports 2 cases of undoubted pyosalpinx treated thus, which were followed by complete cure. Davis reports 6 cases, all cured. Jordan reports 60 cases, with 1 death, this patient being almost moribund at the time of operation. Alexander reports 94 cases of post-vaginal cœliotomies, the large majority of which were simple colpotomies. In this series there were 2 deaths: one due to pneumonia and the other to streptococcic infection of the peritoneum. Alexander says that it is too soon to speak of the ultimate results, but ventures the opinion that the patients are much better than if laparotomies had been performed. Henrotin reports 155 cases in which vaginal incision was done, "fully 100 of which were incipient pelvic sepsis or an acute exacerbation of an old disease." No deaths occurred, and 140 of these cases were entirely cured. With such results he naturally speaks enthusiastically of the treatment, and urges early incision, espe-

cially in cases of pelvic cellulitis. Kelly reports 65 cases of vaginal incision performed for pelvic abscess, pyosalpinx, hydrosalpinx, encysted peritonitis, and dense cellulitis. Of these, 32 were permanently cured, 2 died, many were greatly relieved, while only a very small proportion were unimproved. Out of these 382 cases, collected at random from different operators, there occurred but 5 deaths. If we exclude the pneumonia case, there is a mortality of only a little over 1 per cent. Many of the foregoing cases were absolutely inoperable in the ordinary sense of the word, having a rapid, weak pulse, high fever, and a general septic condition. They would have run serious risk of dying on the table had they been subjected to a prolonged laparotomy.

The cases in which vaginal incision is applicable may be divided into four classes:—

1. Abscesses in Douglas's *cul-de-sac*.
2. Puerperal perimetritis or cellulitis.
3. Extra-uterine pregnancies ruptured and completely walled off by exudates and adhesions. The vaginal route should never be used in recently ruptured cases when the bleeding has not ceased or when it is free in the peritoneal cavity.

4. Pyosalpinx and hydrosalpinx.

In the first class it is the operation of election in all cases. The speed with which it may be performed, the septic and often weak condition of the patient, the excellent drainage of the sac, and the lesser danger of peritonitis, all indicate this operation; in fact, it is frequently the only operation that can be performed with any hope of success.

In the second class it is also the operation of election in most cases, as demonstrated by the low mortality and the excellent post-operative results; but,

as a rule, it is best to try palliative treatment first. This consists in moderately free purgation; a liquid or soft diet, according to the general condition of the patient; and absolute rest in bed. A copious douche of sterile water or 1 to 1000 bichloride solution should be given three or four times daily, as hot as can be comfortably borne by the patient (110° F.); but the most important part of this treatment is the constant application of sand-bags to the lower abdomen, as recommended by Pincus. These bags should be kept as nearly as possible over the seat of inflammation. They reduce the pain, hasten the localization in case the inflammation is going on to pus-formation, and in a certain proportion of instances effect a cure, as illustrated by two of the writer's cases.

The third class—cases of ruptured ectopic pregnancy—may be subdivided into recent and old. In the recent cases the abdominal operation alone is to be considered, for only in this way may all bleeding-points be secured; but in cases of old rupture—in which the bleeding has entirely ceased and the clotted blood and the ovum have become walled off, or in which suppuration is going on, as indicated by a septic temperature—the vaginal incision is indicated if the lesion may be approached safely in this way.

The contra-indications to vaginal incision for pelvic abscess hold good in this class of cases.

Regarding the fourth class, it may be said that in pyosalpinx or hydrosalpinx vaginal section is not the operation of election in the majority of cases; but even here it may be advantageously employed when the general condition is such as to make an abdominal operation or long etherization exceedingly dangerous. Moreover, if the patient absolutely

declines an abdominal operation, as is sometimes the case, vaginal incision may be tried with the hope of a cure. It should never be performed, however, unless the diagnosis is positive. In some cases in which the history points to pus in the pelvis, and in which by vaginal examination the absolute location of the abscess cannot be satisfactorily determined, exploratory laparotomy should be performed. After the peritoneum is opened the surgeon will have his choice of completing the operation from above or making the vaginal incision and draining from below, depending upon the location of the abscess. If the tubes are found to be converted into fluctuating sacs firmly bound down by adhesions, and if the patient's condition is such as to make a long and perhaps bloody operation dangerous, then, after making sure that there are no loops of intestine in the way, vaginal incision is not only justifiable, but it is the best operation.

According to Bigelow, this is August Martin's method of treating pus high in the pelvis. He has had excellent results from it. Hirst, in certain cases of metritis and cellulitis, recommends an exploratory laparotomy, and, if the cellular infiltration is walled off by adhesions, he then does a vaginal incision. In all cases of doubt it is safer to perform the exploratory laparotomy. This is well illustrated by a case admitted to the gynecological wards in November, 1901.

The history is unimportant except that the patient had had gonorrhœa ten months before, and for the last six weeks had suffered from severe pain in the lower abdomen. The vaginal examination showed the vaginal outlet relaxed, the external urinary meatus reddened, and the cervix of moderate

size, firm, smooth, apparently patulous, firmly fixed, and pointing downward, forward, and to the right. Both vaginal fornices were hard and indurated. The uterus was normal in size, fixed, and pushed backward and to the left by a mass somewhat larger than a large orange. This was fluctuant and easily made out by the trimanual method.

The diagnosis of a large tubo-ovarian abscess was made. An exploratory section was done and the diagnosis was confirmed. The pelvis was a mass of adhesions; but as these were not very firm, and as the walls of the abscess were unusually thick, and as the general condition of the patient was good, abdominal salpingo-oöphorectomy was performed. The abscess contained 850 cubic centimeters of pus, and the walls were found to average nearly 2 centimeters in thickness. The recovery was normal, the patient leaving the hospital on the twenty-first day. Vaginal incision would have been much easier in this case; but on account of the thick walls of the abscess, which would have taken a long time to absorb, convalescence would probably have been prolonged for months. For this reason abdominal salpingo-oöphorectomy was preferable.

Another class of cases in which vaginal incision should not be employed comprises those in which the pus is situated high in the pelvis, and there is a loop of intestine intervening between the vagina and the inflamed mass (Fig. 1).

The steps in the operation of vaginal incision have frequently been detailed, and may be summarized briefly as follows:—

1. After cleansing the external genitalia and vagina a large Sims speculum should be inserted. The posterior lip of the cervix should be grasped with a double tenaculum forceps, and the point

fixed in the posterior vaginal wall for the evacuation.

2. The vaginal mucous membrane should be clipped with the scissors at the point decided upon, or the cautery may be substituted for the scissors, which will prevent bleeding from the mucous membrane.

3. If it is thought necessary, the operator may introduce a finger into the rec-

withdrawn, thus enlarging the wound. If necessary, the incision may be farther enlarged with the fingers or by the use of the large Goodell dilators. The wound should be ample: 3 to 5 centimeters in length.

6. The finger should be introduced, and any secondary abscesses or pockets of pus broken up, and the interior of the sac carefully palpated.

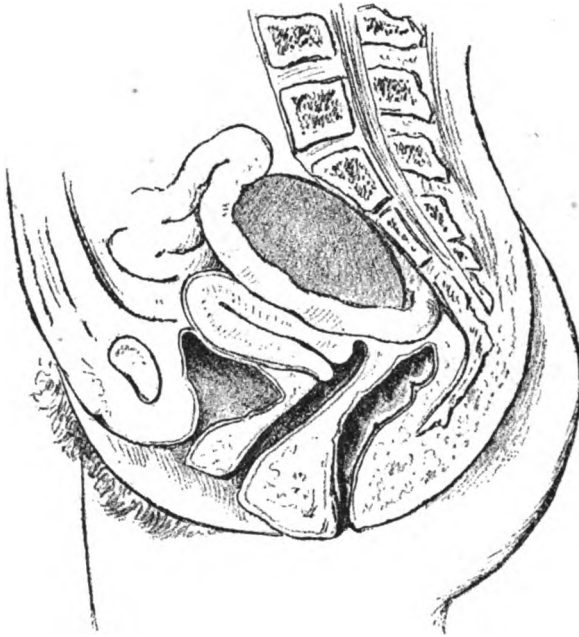


Fig. 1.—A counter-indication to vaginal incision. A loop of intestine intervening between inflammatory mass and vagina. (C. C. Norris.)

(University of Pennsylvania Medical Bulletin, July, 1902.)

tum, to protect it from possible injury. This step, however, is not, as a rule, necessary, and it should, if possible, be avoided.

4. Slightly-curved, sharp-pointed scissors should be introduced to the point of puncture, and, hugging the posterior wall of the uterus, they should be pushed gently, but firmly, into the abscess.

5. The scissors should be opened and

7. Irrigations should be made with normal salt solution.

8. The cavity should be packed with sterile gauze.

The time required for this operation varies from two to ten minutes, probably not averaging more than three or four.

All authors seem to agree that the incision should be free. Henrotin, in most

cases, makes use of a U-shaped incision, following the contour of the cervix, while in other cases he employs a T-shaped cut, carrying it well back into Douglas's *cul-de-sac*. Mundé and Peterson both advocate a free transverse incision. Pryor's method is to cut through the vaginal mucous membrane with the scissors, and

arteries the scissors should never be thrust through the vaginal vault laterally to the cervix. The latter point is well illustrated in the following case, which came into the gynæcological wards of the University Hospital only a short time ago:—

The patient was a woman, aged 30

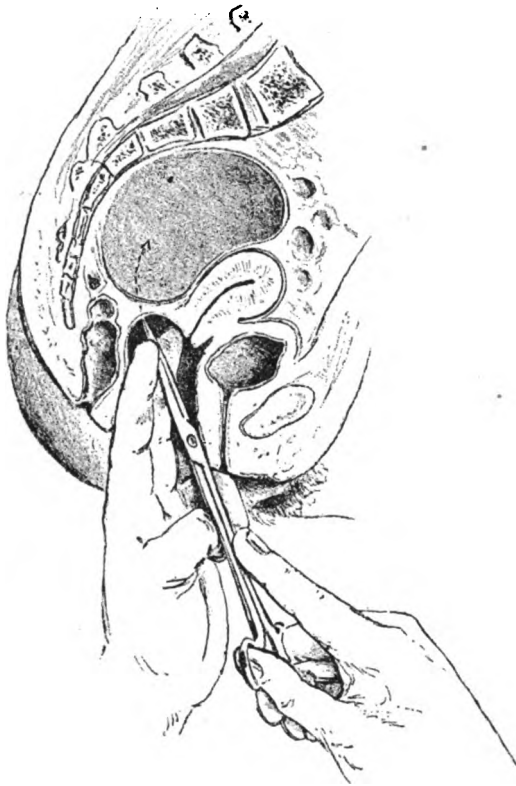


Fig. 2.—Vaginal incision into a retro-uterine pelvic abscess. (C. C. Norris.)

(University of Pennsylvania Medical Bulletin, July, 1902.)

then push through the peritoneum with the fingers, enlarging the wound if necessary. Montgomery uses the thermocautery in cases in which he expects to find pus. Skene believes in aspirating first and making the incision afterward, using the needle as a guide. To avoid serious injury of the bladder, uterus, or uterine

years, suffering from pelvic cellulitis. The uterus and tubes were adherent and firmly bound down anteriorly. The bladder was much contracted. Vaginal incision had been performed at another hospital. The incision had been made lateral to, instead of below, the cervix, and the scissors had been thrust through

the bladder and intestine before reaching the site of the inflammation. The condition of the patient was generally septic, and laparotomy had immediately to be performed. She made a good recovery. The transfixion of the bladder and intestine in this case was the result of the error of thrusting the scissors

site of the abscess. These bags measure 14 by 10 centimeters and weigh 1 to 3 pounds. Two or even three of these bags are used at a time unless they cause inconvenience to the patient, on account of their weight, but this is rare. As a rule, they are very comforting, because of the heat. They accomplish three

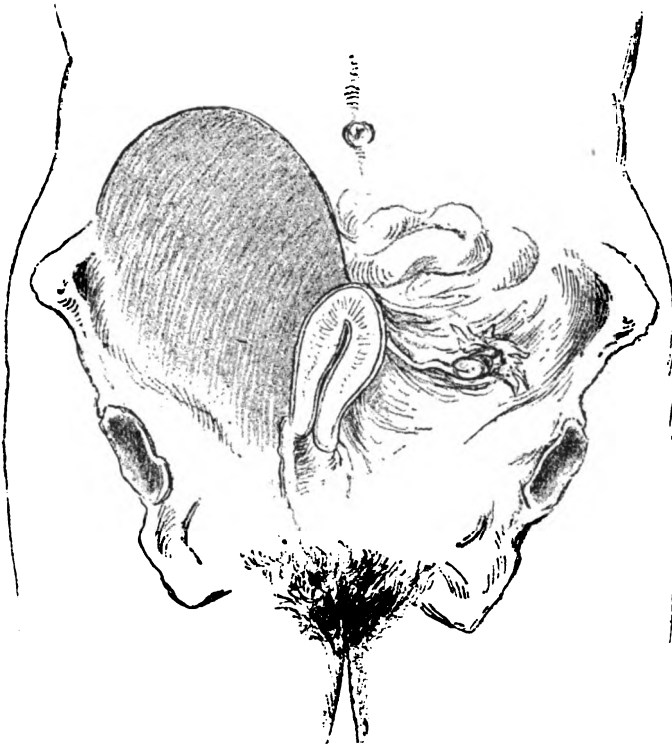


Fig. 3.—Inflammatory mass occupying right side and extending above the brim of pelvis. (C. C. Norris.)

(University of Pennsylvania Medical Bulletin, July, 1902.)

laterally, instead of posteriorly, to the cervix.

After-treatment.—The after-treatment of cases of vaginal incision in the gynecological wards of the University Hospital is as follows: Hot sand-bags are kept constantly applied to the lower abdomen, as nearly as possible over the

things: (a) they very materially aid drainage and lessen the possibility of the sac filling up again; (b) they relieve the pain; (c) they hasten the absorption of the inflammatory exudate.

Half-grain doses of calomel are begun at the midnight following the operation, and are continued, at half-hour inter-

vals, until 2 grains have been given. A simple low enema, consisting of 500 cubic centimeters of normal salt solution, is given at noon of the day following the operation; and this is followed, four hours later if necessary, by a compound enema, consisting of Epsom salts, 2 ounces; turpentine, 2 drachms; and normal salt solution, 1000 cubic centimeters. This may be given high,

obstruction which would completely block a stiff rectal tube. There is rarely much pain; but, if there should be, $\frac{1}{16}$ grain of morphine should be given hypodermically, and repeated twice if necessary.

The gauze drain is removed on the fifth day. The cases require careful attention, for there is frequently a strong tendency for the incision to close

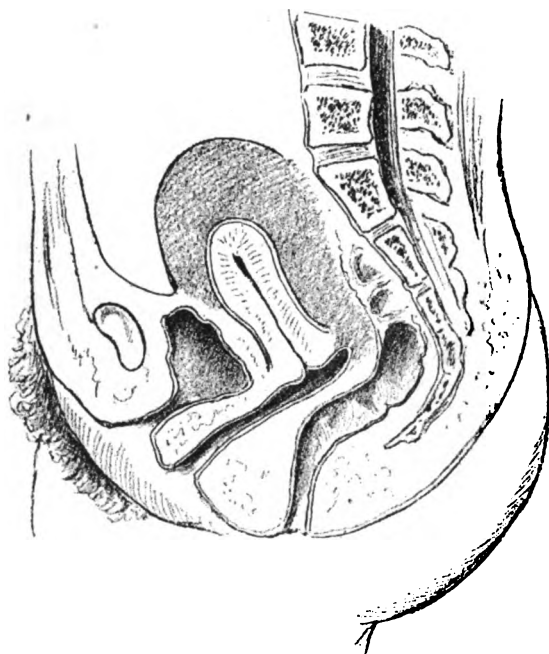


Fig. 4.—A lateral view of Fig. 3, showing retro-uterine cellulitis. (C. C. Norris.)

(University of Pennsylvania Medical Bulletin, July, 1902.)

either through a rectal tube or by elevating the foot of the bed about eighteen inches and simply using a rectal nozzle. By the latter method the liquid is allowed to flow in very slowly, taking one to two hours in the process. If it leaks out around the nozzle, this is an indication that the douche-bag is too much elevated. By this method the enema will often trickle past a fecal

before the sac has filled uniformly by granulations. This may be kept open by gauze, which should be removed at each irrigation. These irrigations are begun on the fifth day, and consist of at least 1000 cubic centimeters of saline solution as hot as the patient can comfortably bear it. They are given twice a day as long as there is any discharge. Kelly is at present treating a number of

these cases by not removing the gauze until the twelfth or fourteenth day, when it comes away easily. There is then daily irrigation, but the sac has so far granulated up that it is not often necessary to replace the gauze. The writer then presents the records of 20 cases.

Letters were written to all these patients, especial attention being paid to menstruation, weight, general health, and pregnancy. From 15 of them replies have been received, all of which have been favorable. Thirteen are entirely well; the other 2 are greatly improved. Three of the 15 are pregnant. There has been a marked gain in weight in almost all cases—in some as much as forty pounds. Of the 4 patients from whom no answers were received, 2 were entirely well on leaving the hospital; the remaining 2 much improved. The general condition of the patients at the time of operation was as follows: 4 were in moderately good condition, in 11 the condition was poor, while in 5 it was absolutely desperate. C. C. Norris (University of Pennsylvania Medical Bulletin, July, 1902).

VERATRUM VIRIDE.

The question of the therapeutic value of the veratrum viride has by no means been settled conclusively. A number of authorities hold that it should be stricken from our list of internal remedies, while others would give it a prominent place in the treatment of certain conditions, among which we might mention especially puerperal eclampsia. It is certainly true that the drug is much less used than formerly, and this may be due to the fact that it has proven less satisfactory or less certain than many of the newer remedies which are in vogue. Dr.

Arturo Gilardoni, of the University of Pavia, has recently published the results of an extensive series of experiments both on animals and human beings regarding the physiological and therapeutic action of this drug. His conclusions are important. He finds that veratrum viride administered either by the mouth or hypodermically lowers the arterial pressure to a degree dependent upon the method of administration and the quantity of the drug used. The arterial depression is the greatest that can be obtained by therapeutic means. The duration of the lowering of the pressure varies in proportion with the amount of the drug administered. It may last two hours from an average therapeutic dose or three to four hours with larger doses or if the drug is given subdermically. The blood-pressure begins to go down rapidly in about fifteen minutes after the dose has been taken. This investigator has been able to obtain a constant diminution of the arterial pressure by the continuous employment of this agent. In one of his cases the lowered blood-pressure was maintained for thirty days, in two others for fifteen days; and he believes that this condition might have pertained continuously had not the patients left the hospital. This would show that veratrum viride may be administered over a considerable period of time without losing its power: an important observation which distinguishes it and places it in a position superior to all other arterial depressants. The fall of pressure is accompanied by a proportionate diminution in the frequency of the pulse, without, however, any change in its regularity or form. He states that in all doses required veratrum viride is always well borne. In nearly every case the drug acts as a diuretic, increasing the specific gravity and all the solid constit-

uents of the urine. His final verdict is that the drug favorably influences all conditions resulting from arterial hypertension. In opposition to the favorable report which we have quoted it must be said that it is the ruling opinion among pharmacologists that the therapeutic uses of *veratrum viride* are extremely limited and are confined to the employment of *veratrine* (a mixture of its alkaloids) for local use as an ointment for such conditions as neuralgia, in which it is a safer remedy than *aconite* and similar in action. Cushny says: "*Veratrum viride* is used internally in the same class of cases as *aconite*, but as its activity is due to *veratrine*, it might as well be discarded from the pharmacopœia." We know, however, that *veratrum viride*, while a powerful cardiac depressant and spinal paralyzant, has a decidedly less depressing effect on the respiration than *aconite*. It acts as a systemic emetic and cathartic, it paralyzes the motor system centrally, lessening the reflex action, but not affecting sensation.

Dr. Gilardoni has presented somewhat revolutionary ideas as to the therapeutic value of *veratrum viride*, and his results are more closely in accord with those so long obtained clinically by numbers of physicians who have pinned their faith to the drug. As we have said, most pharmacologists are not impressed with its usefulness, and it is not employed in anything like the quantities that it was a generation ago. This is probably due to the fact that our ideas of the causation of the accelerated pulse and pyrexia present have been altered by modern studies of toxic states. We seek now rather to remove the cause than treat the symptoms. Editorial (*Therapeutic Monthly*, June, 1902).

X-RAYS IN MEDICAL DIAGNOSIS.

The utility of x-rays for medical diagnosis is clearly set forth by the writer after examining over nineteen hundred medical cases. In pulmonary tuberculosis two constant signs are opacity, depending on the extent and density of the consolidation, and restricted movement of the diaphragm on the affected side, depending on the loss of elasticity of the lung-tissue. When delicate differences in shadow have to be estimated, as happens in very early cases of lung trouble, the fluoroscope is best, as one can graduate the x-ray light when using the fluoroscope and see what cannot be shown by photographs. For heart and diaphragm the lamp is best about two feet from the screen. The heart and diaphragm should be noted first in quiet breathing, then in forced expiration and inspiration, and finally the relative transparency of all parts of the two lungs scrutinized. The positions can be marked on tracing-paper, on which also the episternal notch, ensiform, and nipples are located, or a large sheet of celluloid may be used for tracing. X-rays in tuberculosis of the lungs have been most useful in cases with little or no physical signs; in those with complications, such as bronchitis or emphysema which mask the tuberculosis; and to test lungs when a known tuberculous focus exists elsewhere. In pneumonia the signs are dense opacity of part or whole of lobe, restriction of diaphragm on affected side or sides, displacement of heart away from affected side, accompanied by dilatation. For a considerable time after the crisis the affected lobe is somewhat opaque and the diaphragm's movements are impeded. Pleurisy also leaves signs of restricted movement. In pleurisy with effusion the contour of the diaphragm

is partly or wholly obscured, the heart-shadow is displaced away from the fluid, and the lung is more opaque, owing to compression. In an encysted pleurisy the shadow is stationary, no matter what be the position of the patient. Interlobular effusion is readily recognized. In pneumothorax the pleural space filled with air is brighter than the normal side. Also in emphysema the lung is brighter. Intrathoracic tumors; malignant growths of lung, pleura, or

mediastinal glands; bronchial tuberculous glands, and some cases of œsophageal cancer are visible. Aneurism of the aorta shows larger than it can be percussed, as does also dilated heart. Dilatation of an auricle can be distinguished from that of a ventricle. Dilatation of the œsophagus at certain levels and the shape of a distended stomach may be observed after a large dose of bismuth subnitrate. W. S. Haughton (Medical News, July 26, 1902).

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs :—

A Brief of Necroscopy and its Medico-legal Relation. Arranged by Gustav Schmitt, M.D., Milwaukee. Funk & Wagnalls Company, New York and London.—Twentieth Annual Report of the Provincial Board of Health of Ontario, being for the Year 1901.—Recent Advances in Laryngology. By Charles H. Knight, New York. 1902.—The Rational Treatment of Typhoid Fever. By Lucien F. Salomon, New Orleans, La. 1902.—A New Method of Holding in Place the Retained Catheter. By Joseph E. Morrow, Indianapolis, Ind. 1902.—Operation for Obstructive Jaundice. By Hugh M. Taylor, Richmond, Va. 1901.—Traumatic Popliteal Aneurism. Treated by Ligation Above and Below, and Excision of the Sac. By Hugh M. Taylor, Richmond, Va. 1900.—Mutual Relationship of the Profession and the Public. By John N. Upshur, Richmond, Va. 1900.—Therapy of the Nitrates. By John N. Upshur, Richmond, Va. 1899.—Heart-tonics. By John N. Upshur, Richmond, Va. 1900.—The Treatment of Typhoid Fever. By John N. Upshur, Richmond, Va. 1897.—The Choice of an Anæsthetic for Children. By Edward Judson Wynkoop, Syracuse, N. Y. 1901.—Typhoid Perforation: its Frequency, Prognosis, Diagnosis, and Treatment. By Hugh M. Taylor, Richmond, Va. 1901.—Surgical Interest of the Subperitoneal Tissue. By Hugh M. Taylor, Richmond, Va. 1901.—Diagnosis of Bullet Wounds of the Abdomen. By Hugh M. Taylor, Richmond, Va. 1898.—Heredity, with a Study of the Statistics of the New York State Hospitals. By William C. Krauss, Buffalo, N. Y. —Joseph Eastman, M.D., LL.D. A Sketch. By Samuel E. Earp, Indianapolis, Ind. 1902.—The Conservative Treatment of Appendicitis and Fallacy of the Starvation Cure. By J. H. Carstens, Detroit, Mich. 1902.—Some Habits of Malaria Not Controlled by the Mosquito. By Charles Hicks, Dublin, Ga.—A Brief *Résumé* of the Treatment of Tuberculosis. By George E. Malsbary, Cincinnati. 1902.

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[End of the Editorial Department of the Monthly Cyclopædia for September, 1902.]

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Cyclopædia of Current literature.

ABDOMINAL SECTION, VALUE OF.

The conditions which most frequently call for surgical interference and which are invariably accompanied by pain are as follows: 1. Dilatation of the stom-ach due to pyloric obstruction, either

of a simple or malignant form. 2. Hæmorrhage from gastric ulcer. 3. Rupture of a gastric ulcer. 4. In some cases of great hyperacidity of the stom-ach gastro-enterostomy has been found of great value. 5. In gall-stones ac-

accompanied with pain and abscess of the liver operation has given very satisfactory results. 6. In acute obstruction of the bowels, whether due to intussusception, bands forming from old inflammation, or obstruction induced by new growth in the intestine, large or small. 7. Appendicitis: (a) in catarrhal ones with no distinct lump or swelling around the appendix; (b) appendicitis with a swelling which may entirely disappear either by absorption or by formation of a local abscess, which may require an operation, or may burst into one of the viscera, such as the bowel or bladder or, more seriously, into the free abdominal cavity; (c) acute perforative appendicitis, which leads to general peritonitis and the formation of abscess in the general peritoneal cavity. 8. Removal of the ovaries in cirrhotic disease and chronic inflammatory affections, accompanied or not by suppuration of tubes. 9. Removal of the uterus. 10. In wounds or rupture of the bladder. J. C. Renton (Scottish Medical and Surgical Journal, April, 1902).

ANTITOXIN, PROPHYLACTIC INJECTIONS OF.

It is now a generally accepted view that, the earlier antitoxin is administered, the more efficient the remedy. Numerous articles have appeared of late advocating the preventive administration of the serum. These views should receive wider dissemination and a more general acceptance than has heretofore obtained. In the minds of many practitioners there is an unfounded prejudice against the use of the serum. In some way they have associated it in their minds with the tuberculin or other products that are directly derived from bacteria, and hence are regarded as poisonous. The antitoxin serum is devoid

of danger unless it is accidentally contaminated or its administration is carelessly undertaken. The administration of the serum simply increases whatever of natural immunity there may be in the individual, or, if he has none at all, create an artificial immunity. Wherever there is a suspicion of exposure to diphtheria, the serum should be employed, and in this way the family epidemics which have been so disastrous in the past ought never to be repeated.

An important step has been taken in the New York Department of Health in the warfare against diphtheria. A special corps of inspectors has been organized for the free administration of antitoxin. It is the intention of the Health Department, in crowded tenement-houses where isolation cannot be secured, to immunize all in the house. Physicians are urged to report all cases in which diphtheria patients are not properly isolated, and the Health Department through its inspectors will immunize those who have been exposed. In addition the dispensaries in the crowded quarters of the city are to be supplied with sufficient antitoxin to inject all suspected cases before leaving the dispensary. This procedure does no harm, and in true cases of diphtheria secures antitoxin treatment from twenty-four to thirty-six hours earlier than has been the case in the past. Editorial (Medicine, August, 1902).

APPENDICITIS.

An absolutely healthy appendix is never attacked by appendicitis, but may become involved by continuity from catarrhal inflammation of the cæcum. Appendicitis has always a gradual beginning without symptoms, followed by signs of sudden acute inflammation. A pointed foreign body in the appendix

may give similar symptoms, rapidly followed by perforation. The appendix is predisposed to attacks by chronic illness. While fæcal concretions are usually found in a healthy appendix, they may occur in granular or tubercular appendicitis. Stricture or stenosis of the appendix may occur. Non-purulent appendicitis rarely contains a fæcal concretion. Gangrene occurs earlier in purulent than non-purulent appendicitis; gangrene is more rare with stricture or stenosis of the appendix than with granular appendicitis. Minute hæmorrhages occur, and the infection reaches the lymph-channels. Periapendicular abscess may develop without perforation, rarely even at some distance from the appendix, and may be wholly absorbed, with recovery. Stenosis of the appendix rarely heals spontaneously, and the presence of a concretion usually causes suppuration, though it may reach the cæcum. Only about one-third of all cases run a mild course. Of 282 patients with appendicitis, but 84 were non-purulent. Riedel (*Archiv für klinische Chirurgie*, vol. lxi, Nos. 1 and 2, 1902).

ATOXYL, A NEW ARSENIC PREPARATION FOR DISEASES OF THE SKIN.

This preparation recommended in the treatment of various diseases of the skin in which arsenic has been found more or less useful. It is a white, odorless powder with a weak saline taste, soluble in warm water up to 20 per cent., and contains 37.69 per cent. of arsenic. In chronic diseases, such as alopecia areata, dermatitis herpetiformis, sarcoma of the skin, dermatitis exfoliativa chronica, xanthoma diabeticorum, psoriasis, lichen ruber, it was given in hypodermic injections of a 20-per-cent. solution, the

dose varying from 0.04 to 0.2 grain. In alopecia areata and dermatitis exfoliativa no result was obtained; but in a case of dermatitis herpetiformis a cure followed in a remarkably short time. In a case of xanthoma diabeticorum improvement was noted after the fourth injection and complete disappearance of the eruption after the twenty-second. In 3 cases of psoriasis improvement was clearly apparent after 5 or 6 injections, but a complete cure was not obtained in any of the cases. Of 14 cases of lichen ruber treated in this manner, 9 were, at the time of writing, completely cured, and the remaining 5 were rapidly improving. In about 1500 injections no irritation or infiltration worth mentioning was observed. Schild (*Dermatologisches Zeitschrift*, April, 1902).

BASEDOW'S DISEASE, SERUM-TREATMENT OF.

Exophthalmic goiter being due to hyperfunction of the thyroid gland, the symptoms being due to excessive production of thyroïdin, the treatment should consist in an effort to reduce the production of this organic iodine compound. As the thyroid glands are the only organs in which this substance is formed, the milk of animals the thyroid glands of which have been extirpated should contain no organic compound iodine, and therefore be useful in cases of exophthalmic goiter. The author then treated cases with the milk of thyroïdectomized goats. One was so weak that she could not walk. In a few weeks she could do so, the circumference of the neck had diminished, she had gained in weight, the pulse was reduced to 90 beats per minute, all the subjective symptoms had disappeared, and some hard nodules that could be felt in the goiter also ceased to be noticeable. W.

Goebel (*Münchener medicinische Wochenschrift*, May 20, 1902).

BLOOD POISONS.

The various drugs which have a deleterious effect upon the blood may be conveniently divided into six classes. The first comprises the agglutinins, which act by changing the physical conditions of the red blood-cells so that they adhere to each other and thus occlude the vessels; ricin and abrin are the two best-known examples. Hæmolyseins form the second group; these dissolve out the hæmoglobin which deposits in the liver and kidneys, while the stromata of the cells form multiple capillary emboli; arsenureted hydrogen, phallin, helvellic and quillajic acids, senegin, sapotoxin, and solanin belong to this group. Potassium chlorate, pyrogallie acid, and chrysarobin constitute the third class, which is characterized by the formation of methæmoglobin. Hydrocyanic acid and carbon monoxide belong to the fourth, in which special hæmoglobin compounds are formed. Fifteen metals are capable of entering into union with hæmoglobin, thus giving rise to the fifth group, while the sixth is made up of substances such as phenylhydrazin and aniline, which are capable of producing partial necrosis of the erythrocytes. The effects of the metals on the blood studied as revealed by the microscope. Granular degeneration of the red cells was present to a marked degree in all animals, and in those with nucleated red cells it could be seen that the process was really a disintegration of the nucleus within the cell or after extrusion. In mammals, however, normoblasts seemed to play no part in the process. It is probable that the granules represent metallic hæmoglobin compounds. A. Keil (*Archives*

Internationale de Pharmacie et de Thérapie, vol. x, p. 121, 1902; *American Journal of the Medical Sciences*, September, 1902).

BREASTS, MASSAGE OF THE, DURING LACTATION.

The use of properly applied massage in the treatment of painful congestion of the breasts at the beginning of lactation is most valuable, but there appears to be much misunderstanding regarding the way in which it should be employed. Bacon has pointed out the errors in the directions given in most text-books. It is usually said that the breast should be massaged by rubbing from the circumference toward the nipple, the evident purpose of such efforts being the removal of milk from the breast. Painful breasts at the beginning of lactation usually contain very little milk, and the pain and tension are not due to retained secretion, as is popularly supposed, but to a temporary overfilling of the blood- and lymph- vessels. The effect of massage should be to cause an emptying of the vessels and so to relieve the tension and resulting pain. Bacon, after considering the arrangement of the blood- and lymph- vessels of the breast, describes the proper technic to be followed to accomplish the desired results. The rubbing is begun in the axilla and under the clavicle, using but little pressure at first and gradually increasing it. The purpose of the massage is to facilitate the flow of fluids from the breast, and this is accomplished by accelerating the flow in the efferent vessels. The gland itself may or may not be massaged, but the manipulation should never cause pain; if it does, the pressure employed is too great or the breast is approached too rapidly. No effort is directed toward

causing a flow of milk from the gland. Bacon warns against massage in infected breasts. The treatment should be reserved for cases of non-infected breasts in which relief cannot be obtained by supporting bandages. The benefit sometimes derived from massage of the breasts by the old method is probably due in small part to the escape of milk, and is principally dependent on an emptying of the engorged vessels under the influence of pressure, much in the same way as it occurs when judicious pressure is applied by means of a bandage. When skillfully used, massage is a valuable procedure in relieving suffering from congested breasts at the time when the secretion of milk is being established, but if improperly applied it may aggravate the conditions which it is expected to alleviate. Editorial (Journal of the American Medical Association, August 16, 1902).

CANCER, THE INCREASE IN.

The mortality tables of all civilized countries which are kept with sufficient accuracy to admit of careful deductions show marked increase in the death-rate of cancer. The English statistics show that during the last four years the deaths from cancer have numbered 672 per million living for men, and 975 for women. Thirty years ago the rates were 242 and 510, respectively. This shows a gradual relative increase among men, and, on the whole, a very marked increase in the total number of deaths from malignant disease. In the English statistics cancer is made to include all malignant neoplasms. The question as to whether this represents a true increase in the disease, or if it is merely due to increased accuracy in diagnosis, which means that deaths that are now assigned to malignant disease were for-

merly included under other disorders, cannot be definitely ascertained. The best statistics that we have bearing upon this subject are the large Continental hospitals, in which every case that dies is subjected to a post-mortem examination. The figures show that the English statistics give about the same number of deaths from malignant disease that a large series of post-mortem examinations furnish. This shows that a considerable proportion of the increase in cancer which is now noted in the mortality statistics must be credited to the increased accuracy in diagnosis. It does not, however, account for all the increase, as there must be a considerable number of cases which are due to malignant disease which would be recognized if a thorough post-mortem examination were made in every case.

In part, the increase is to be attributed to increased longevity. Cancer, while not confined to any particular decade, increases in relative frequency after middle life. The average age of persons now alive is considerably greater than it was thirty years ago. This has been due to the lessening of early life mortality and to the marked decrease in deaths from the infectious diseases. An increased longevity means that a large proportion of the community have reached the cancer age; consequently we can look for a greater increase in the diseases which are common past middle life and those degenerative conditions that are associated with senility.

It is manifest that this topic is of considerable importance. If cancer is assuming epidemic proportions, in our present inability to combat the disease and our very limited knowledge of its nature it is manifestly fraught with great importance from the public-health standpoint. If, however, factors which

we know account in large measure for the increase, then there is no reason why there should be any special alarm. Editorial (Medicine, August, 1902).

CARCINOMA OF THE BREAST.

In all recent or primary cases complete excision is the only resource. Mercurial cataphoresis should have the preference in the secondary cases, especially when the subjacent lymphatics are extensively involved, in recurrence after operation, and in all inoperable cases as a palliative measure. Oöphorectomy is indicated prior to the menopause in all recurrences and inoperable cases, regardless of other treatment, if the condition of the patient is not so bad as to make it extremely hazardous to life. Repeated x-ray exposures should be made in most instances till some local reaction appears, and be repeated from time to time if improvement follows. Thyroid extract should be administered in every case along with other treatment, and continued till its physiological effect is obtained. Until a specific effect is produced several of these methods in combination should be tried where possible. F. G. du Bose (Mobile Medical and Surgical Journal, June, 1902).

CARCINOMA OF THE HEPATIC FLEXURE OF THE COLON.

A suggestive diagnosis of this condition is alone possible. The symptoms that may be taken as fairly suggestive of this syndrome are: 1. The prominence of digestive derangements in association with other symptoms indicative of colon disease. 2. These symptoms arise in connection with the bowel, primarily, and in connection with the stomach, secondarily. 3. The symptoms associated with obstruction of the

hepatic flexure are more acute than those situated farther along the colon, and usually do not occur until the patient has already shown signs of constitutional disease. 4. Pain is more common and more acute in disease of the cæcum, ascending colon, and hepatic flexure than when the growth involves other segments of the large intestine, and the pain is usually felt over the seat of the disease. 5. While the symptoms may suggest disease of the colon up to and including the hepatic flexure, the absence of any tangible growth in the right iliac and lumbar regions will point to implication of the hepatic flexure. A. E. Maylard (Edinburgh Medical Journal, May, 1902).

CHLOROFORM ANÆSTHESIA.

Physicians and surgeons are agreed that accidents in chloroform anæsthesia are not more frequent in patients with aortic or heart disease than in patients with other illness. Nor does cardiac or aortic disease contra-indicate chloroform as an anæsthetic, if the disease is not acute and infectious, if the patient is not too feeble, or if dyspnœa, asystole, or symptoms of pericardial symphysis have not appeared. In some cases of atheroma and cardiac disease the heart condition even improved after chloroformization. The main contra-indication to chloroform in patients with heart disease is the presence of dyspnœa. This is, however, but temporary. Accidents may be due to impure chloroform, its method of administration, or to errors of the anæsthetist. Rarely there may be an idiosyncrasy to chloroform, more frequent in nervous patients. Death may occur under chloroform, yet may not be due to the chloroform. The question whether ether or chloroform is to be preferred as the

anæsthetic has not yet been definitely settled. Ether is to be preferred in nervous patients, with kidney disease, low arterial tension, profound anæmia, and depression. It is contra-indicated in pulmonary disease, dyspnœa, etc. Ethyl bromide has been given first by Richelot with success, following with chloroform after anæsthesia has begun. Laborde advises atropine, morphine, and sparteine, hypodermically, before chloroformization. Pure chloroform, well given, to a patient prepared for it, almost never kills. Henri Huchard (*Journal des Praticiens*, May 31; *Philadelphia Medical Journal*, September 13, 1902).

CHRONIC NEPHRITIS, MINERAL WATERS IN.

Von Noorden announces that in cases of contracted kidney and the early stage of heart-weakness the elimination of the products of metabolism is not influenced to any extent by a reduction of the amount of fluid taken daily. Albumin does not seem to be materially changed either by an increase or decrease in the amount of liquid ingested. Moreover, in Bright's disease, when the heart is failing, a diminution of the quantity of water proves beneficial. The reduction of the quantity of liquid is advised in the early stages. He has also noticed that after the ingestion of a large quantity of water in contracted kidney there is enlargement and weakening of the heart. In the advanced stages, with a corresponding degree of arteriosclerosis with hypertrophy of the heart, restriction of liquid is imperative. The average quantity of liquor advised is 2 pints. Professor Ewald confirms von Noorden.

The bath treatment was based on the assumption that the action of the skin had a certain connection with the func-

tions of the kidneys, and that by stimulating the former a disorder of the kidneys might be benefited. J. M. Groedel (*Practitioner*, December, 1901) has never seen any curative results from the drinking of waters. His experience is that the bath treatment in cases of parenchymatous nephritis is contra-indicated. He divides cases of contracted kidney into two groups. In the first group are those in whom the circulatory system is not greatly disturbed. The second group consists of those who show an advanced degree of insufficiency of the heart, which is more or less distinctly dilated. In the first group of cases the Nauheim baths are suitable, but in the second group baths are contra-indicated. It has been said that carbonic-acid saline baths always increase the blood-pressure, but this is not the fact, and it has been proven that in cases of arteriosclerosis we are able to regulate the baths in such a way as not to increase the blood-pressure, but rather to reduce it. If this is the case, these baths should also be beneficial in contracted kidney. The baths of Nauheim have the effect of reducing the blood-pressure for a longer period than the artificial baths. The more carbonic acid the bath contains, the more the temperature may be lowered, but not below 90° F. The baths seem to dilate the peripheral vessels, a condition brought about by the irritation of the gas and the reduction of the blood-pressure; they lighten the work of the heart and lead to resting of that organ, which gives it a chance of recovering strength, and this is still further promoted by the direct stimulating and toxic effect of these baths. The increase in the diuresis is ascribed to the strengthening of the heart. Editorial (*Philadelphia Medical Journal*, August 23, 1902).

COCAINE AS A THERMOGENIC.

The rise of temperature caused by cocaine is due to an increase of heat-production, and the latter depends upon two actions: one, of the cortex, causing motor excitement, and the other upon the caudate thermogenic center, by which heat is produced independently of motor activity. Cocaine possesses very little power as a thermogenic in animals lightly curarized, because of both the motor quietude and the depression of some other portion of the thermogenic apparatus. It is absolutely without thermogenic power in animals in which the pathways of thermogenic and cortico-spinal motor fibers have been cut, as after section of the spinal cord at its junction with the bulb and of the crura cerebri. Cocaine is effective as a thermogenic when only a small portion of the caudate center is left intact with the parts below. Cocaine and morphine are direct antagonists in their actions upon the caudate and cortical centers which are directly or indirectly involved in the changes of temperature and heat-production. E. T. Reichert (*Philadelphia Medical Journal*, August 2, 1902).

DIPHTHERIA.

Antitoxin should be administered to all persons who come in contact with a patient developing diphtheria. Out of 546 children in the families of diphtheria patients examined by the author, 157 had Klebs-Löffler bacilli in their throats. Besides, out of 30 adults examined, parents and nurses, 13 had bacilli in their throats. Fourteen cases occurred, on the other hand, in which contagion was due to convalescents who had left the hospital with bacilli in their throats. Antitoxin, prophylactically given, caused no accidents. When diph-

theria follows in spite of antitoxin, the dose may have been too small or the injection given too late. Of 502 children injected prophylactically, 13 developed diphtheria, 7 of them inside of 24 hours after the injection, the other 6 in the next 28 days. The throats of 476 of these were examined, bacilli being found in 150. A great amount of statistics shows the efficacy of antitoxin. The immunity lasted from 2 to 28 days. When diphtheria occurred in inoculated children, it was mild. It is much like vaccination in effect, only the immunity to small-pox conferred by vaccination lasts much longer. Netter (*La Presse Médicale*, April 23, 1902).

Study of 10,526 cases of diphtheria showed that the ratio of mortality of diphtheria per 10,000 of the living was very high in Boston previous to 1895. The ratio of mortality per 10,000 has been very materially reduced since the introduction of antitoxin. The percentage of mortality in the "South Department" (Boston City Hospital) is lower than that of any of the hospitals at home or abroad taken for comparison. Since larger doses of antitoxin have been given the death-rate has been materially reduced, this reduction having occurred in the apparently moribund cases. No injurious effect has followed the use of serum. To arrive at the most satisfactory results in the treatment of diphtheria, antitoxin should be given at the earliest possible moment in the course of the disease. J. H. McCollom (*Providence Medical Journal*, July, 1902).

DIPHTHERIA, CERTAIN CAUSES OF DEATH IN.

A condition which has frequently been overlooked as a cause of death

in diphtheria is cardiac thrombosis. In the absence of an autopsy one is apt to assign the cause to toxic myocarditis, or to some lesion of the cardiac nerves or of the medulla, and all the more since these thromboses are incident during convalescence, and are often accompanied by paralytic affections. In 45 autopsies performed by the author on cases of diphtheria, he found thrombosis of the heart in 23. The seat of thrombosis is most frequently the right chamber; sometimes the thrombus occupies both right chambers, continuing up into the pulmonary artery, and sometimes in the auricle or ventricle alone. Rarely are the thrombi found in the left chambers, or at least in all of them. The clots are yellowish white, fibrinous, more or less stratified, containing but little serum, and closely adherent to the endocardium. They are evidently not formed after death, since the fatal termination is not a violent one, but occurs quietly with precursory signs. Of 19 cases examined bacteriologically, the thrombi contained the diphtheria bacillus in 3, the streptococcus and diphtheria bacillus in 3, the streptococcus alone in 5, the staphylococcus in 3, and both the streptococcus and staphylococcus in 4 cases. Is thrombosis of the heart to be attributed to the diphtheritic infection or to a septicæmia? This question cannot be definitely answered. At any rate, on the tonsils and mucous membrane of the pharynx the fundamental action of the diphtheritic toxin is fibrinogenesis. The fact that thrombosis of the heart is an accident of convalescence, after the false membrane has disappeared from the throat, does not prove that the thrombi are not caused by the diphtheritic poison, for the pseudomembranous angina is but an incomplete and deceptive mirror of the pathological entity

known as diphtheria. The diagnosis of thrombosis of the heart is a difficult one. Frequently its only manifestation is sudden death, but often it causes certain precursory signs. There is a general waxy, deathly pallor of the face and body, accompanied by coldness of the extremities. The child which has been playing on the previous days, sitting up in bed, suddenly becomes listless, lying motionless on its back. In certain cases there is a slight cyanosis of the lips and extremities. From this moment the pulse becomes small, rapid, thready, irregular, and unequal. The heart-sounds are muffled, with or without modification of rhythm. That which completes the picture in certain cases is an expression of intense anxiety on the part of the child, associated with extreme agitation. There is no loss of consciousness. This condition can with difficulty be distinguished from myocarditis or bulbar paralysis. The prognosis is grave and the treatment *nil*. Regarding the effect of diphtheria on the progress of a tuberculosis, foci of latent tuberculosis are awakened parallel with the evolution of the diphtheria. Likewise the progress of a case of diphtheria is aggravated by a concomitant tuberculosis, and the cardiac accidents are more frequent and severe. M. H. Barbier (*Revue mensuelle des Maladies de l'Enfance*, August; *Medical News*, September 13, 1902).

DISINFECTION.

Of disinfectants that are efficacious, innocuous, automatic, and inexpensive, the best is formic aldehyde. It forms an odorless compound with ammonia, which becomes useful, after disinfection, for removing the smell. It also makes gelatin insoluble, forming a hard,

transparent mass. It is antiseptic, diffusible, and penetrating. Alfred Martinet (*La Presse Médicale*, April 30, 1902).

EQUINO-VARUS, MODIFIED OPERATION IN.

This consists in making a triangular flap, similar to that sometimes used in relieving Dupuytren's contraction of the hand, a V-shaped incision as advocated by Busch and others for cicatricial contractions after burns on the flexor sides of the extremities. An incision is made, beginning slightly below the margin of the plantar fascia on the inner side of the foot, at a point on a line directly below and anterior to the internal malleolus, extending forward and upward to a point on the first metatarsal bone and nearly to the metacarpo-phalangeal joint. A second incision is made, beginning at a point over the astragalo-scapoid articulation, extending forward and slightly downward, joining the first incision near the metatarsophalangeal joint, forming a V. The incisions are sufficiently deep to include all the subcutaneous structures, including the fat. This flap is dissected backward to the points where the incision was begun, producing a large triangular wound, making it possible to divide all the necessary structures under the guidance of the eye. All the soft structures are thus exposed. The inner fasciculus of the plantar fascia is divided diagonally. The diagonal division of the plantar fascia is practiced so that, after correction, there be left no defect between the divided ends, but that the points of the incised fascia still lie in contact, thereby lessening the tendency to contraction. The remaining structures are then divided as directed by Phelps, until the astragalo-scapoid cap-

sule is reached. Instead of dividing this, another incision is made on the outer side of the foot over the head of the astragalus, extirpating, first, the bursa, which is usually present; then the tendons and soft structures are pushed to one side and the neck of the bone is exposed. The neck of the bone is then cut with a chisel. The foot can then be pushed outward without separating the astragalo-scapoid articulation, which nearly always occurs in the Phelps operation. Occasionally, in old and inveterate cases, it becomes necessary to make a cuneiform excision of the neck, and in several instances the neck and head of the astragalus have been removed. The varus having been overcorrected and turned into a valgus, the equinus deformity is relieved by a subcutaneous division of the tendo Achillis. All hæmorrhage is easily controlled with catgut ligatures and pressure. The triangular flap is then turned back, covering the wound except at its anterior point. No sutures are employed. A perforated silk protective is applied over the wound. The outer wound over the astragalus is closed with catgut. An antiseptic dressing is applied, and over this a retentive dressing of plaster of Paris, beginning at the toes, extending upward above the knee, including one-third of the length of the thigh. The dressing is not disturbed within five weeks. The wounds are then completely healed.

Experience with this method has demonstrated its usefulness.

The triangular flap, although at first employed for old and relapsing cases, is now used wherever force and subcutaneous tenotomies are inefficient, whether the cases are recent or old. It is indicated in cases of pronounced talipes equino-varus wherever an open opera-

tion is necessary to overcome the deformity which involves the medio-tarsal joint. The astragalo-scaphoid ligaments and capsule must not be incised or torn. When the division of the soft structures is not sufficient to overcome the varus deformity, an incision over the head and neck of the astragalus must be made and the bursa extirpated. The neck of the astragalus must be divided transversely with an osteotome. If this is not sufficient, a wedge from the neck should then be removed; if that fails, remove the head. If the astragalus has rotated so that its superior articular surface is inclined outward, and a replacement is impossible, the internal lateral ligament must be divided, which can be done through the opening made by the triangular flap. The best possible guarantee against relapse is to divide soft parts and bone, so that the foot falls into its natural position with little or no pressure. A. F. Jonas (*Journal of the American Medical Association*, September 13, 1902).

EXOPHTHALMIC GOITER AND PHTHISIS.

A man, aged 25 years, after being almost drowned, noticed loss of flesh, cough, palpitation, insomnia, dyspnoea, fever, sweating, etc., all suggestive of consumption. After two years of treatment he remained about the same, having become depressed, cachectic, and nervous. Upon examination a tremor was noted, the thyroid gland was somewhat enlarged, and, while there was no exophthalmos, von Graefe's sign was present. No tubercle bacilli were ever found. Quinine hydrobromate, theobromine, milk and vegetables, rest, and baths caused recovery. A. Pegurier (*Journal des Praticiens*, May 17, 1902).

FÆCES, COLOR OF: CAUSES, VARIATIONS, AND SIGNIFICANCE OF.

The ingredients that color the stools are as follows: Digestive secretions, food residue, discharges from the intestinal mucous membrane, and accidental ingredients. Green stools, except in those infrequent cases in which the color is due to bacterial action or to the food, are always caused by the presence of biliverdin. This pigment may never occur as a normal constituent of the fæces except in meconium. In infants, however, in whom the putrefactive processes in the intestines are slight and in whom bilirubin is found normally in the fæces, biliverdin will appear upon slight provocation. The green color may be present when the stool is passed or may develop only after it has stood for some time. Biliverdin is found in the stools of children in diarrhœas of many sorts. Such stools are usually alkaline in reaction, and it is believed that biliverdin is associated with increased alkaline reaction of the contents of the upper part of the small intestine. The green stools in adults only occur when there is inflammation with increased peristalsis of both small and large intestines, and never when one or the other alone is involved, since, with normal peristalsis in either large or small intestine, there should be time for the reduction of the biliverdin to hydrobilirubin. L. A. Conner (*Medical News*, August 30, 1902).

FEBRILE AND WASTING DISEASES, NUTRITIVE DRINK FOR.

The following is recommended as a nutritive drink: 2 lemons, the white of 2 eggs, 1 pint of boiling water, and loaf sugar to taste. The lemons must be peeled twice, the yellow rind alone being used, while the white layer is re-

jected. The sliced lemon and the yellow peel are placed in a quart jug with 2 lumps of sugar; the boiling water is poured over them and stirred occasionally. When cooled to about the ordinary temperature of tea the lemons are strained off. The white of egg is then added while the lemonade is being stirred, and the stirring should be continued for two or three minutes more. The fluid should be strained through muslin while hot and drunk cold. R. W. Leftwich (Edinburgh Medical Journal, May, 1902).

GASTRIC ULCER, BLOOD-POVERTY AND.

Conclusions as to the causation of peptic ulcer of the stomach are as follows: 1. In many, and perhaps in most, cases a high grade of anæmia precedes the appearance of peptic ulcer, and this anæmia usually assumes the chlorotic form. 2. With few exceptions, gastric ulcer is attended by the symptoms of marked anæmia. In certain cases in which the blood-picture fails to show a reduction in the hæmoglobin percentage and in the number of red cells the fact seems to be due to concentration of the blood dependent on anæmic causes. 3. General anæmia implies anæmia also of the pylorus, and consequent inanition of its mucous membrane. 4. The venous outlet from the pylorus is one that in anæmic conditions would predispose still further to an unhealthy condition of the muscular and membranous coats of the pyloric wall. 5. Hyperacidity is usually present in chlorosis and often in other forms of anæmia; and when present in any condition it is an influence predisposing to gastric ulcer, when associated with an anæmic gastric wall. 6. Hyperacidity is not essential to self-digestion of the stomach-wall, provided

that wall lacks the proper nourishment and stimulation of a healthy or sufficient blood-supply. 7. Any form of hæmorrhage—menstrual, operative, or anæmic—may either predispose to or accentuate an already present anæmic condition of the gastric wall, and such hæmorrhages are *de facto* often followed by gastric ulcer. 8. Blood-poverty is a leading, and the usual, predisposing cause of peptic ulcer. R. N. Willson (Journal of the American Medical Association, September 20, 1902).

HEAD-INJURIES, INDICATIONS FOR OPERATIONS IN.

The author advises to operate in all cases of compound depressed and compound comminuted fracture of the cranium. It is usually advisable to operate on any compound fracture. Simple fracture of the cranium without symptoms does not, as a rule, demand operation. Absence of unconsciousness does not contra-indicate operation. The degree of unconsciousness is not in all cases proportionate to the severity of the injury. The duration of unconsciousness is important, and when it lasts more than twenty-four hours, no other cause than the injury being present, operation should be considered. Marked rise of temperature after uncomplicated head-injury suggests serious injury to the brain. It is not necessarily an indication for operation. A subnormal temperature without other symptoms has no special significance. When accompanied by unconsciousness and lasting twenty-four hours or more it suggests oedema of the brain or intracranial hæmorrhage. Severe pain in the head continuing for some time after a head-injury, if organic, indicates operation. Pain in the head following injury may, however, be functional and due to

general nervous conditions. Convulsions, when clonic and diffuse, suggest epilepsy or other complications. When localized they are of value as indicating the side of the brain on which the lesion producing them is situated. Taken in connection with other symptoms, their presence usually favors operation. The presence of paralysis of the limbs in adults, if marked, usually indicates immediate operation. Partial hemiplegias and paralysis of the limbs may occur in œdema of the brain following injuries. The above statements refer to adults only. In children paralyses are more apt to pass away, and the indication for operation is not so decided. W. N. Bullard (Boston Medical and Surgical Journal, July 31, 1902).

HEART DISEASE, TREATMENT OF.

Each patient showing a heart-lesion must be a study unto himself. No heart medicine is needed unless the myocardium is unable to do its work in a physiological way. The heart-muscle should demand more consideration than the heart-murmur. Rest is one of our best therapeutic agents. We should try by every possible means to prevent myocarditis in all diseases in which this condition is apt to arise. After any severe disease process we should insist upon the patient resting in bed long enough to allow the myocardium to be restored. We should improve the general nutrition of our patients and restore the blood to a normal standard by the use of blood-tonics. We should investigate the kidneys in all cases showing signs of cardiac incompetency. Physical exercise, light gymnastics, and properly selected diet are valuable aids in the treatment of cardiac disease. I. Newton Snively (Medical News, September 6, 1902).

HEART, EFFECTS OF EXERCISE ON.

Violent exertion normally causes changes in the blood-pressure, temporary enlargement of the heart's area from dilatation or relaxation of the myocardium, and sometimes a fugitive murmur. The cause of the latter is not obvious. The chief result of training is hypertrophy. As abnormal results of exercise, we have acute dilatation, rare in healthy young men, especially if well trained, and as a result of habitual overexercise; "irritable heart" and the other conditions associated with dilatation, hypertrophy, or myocarditis, and generally due in part to other predisposing causes. R. C. Larrabee (Boston Medical and Surgical Journal, September 18, 1902).

HEMIPLEGIA, THERAPEUTICS OF.

Nobody has failed to notice that, no matter how complete the paralysis after an apoplectic stroke, the patient, if he survives, will always regain, sometimes to a considerable degree, the power to use his disabled members. It is only the most recent research in brain pathology that has disclosed the presence of a number of reserve motor tracts by means of which will-impulses reach the cord from the cortex if one pyramidal tract is destroyed. The pyramidal tract is the only direct route, but the tract of the opposite side can vicariously assume its functions, the transmission taking place through the direct pyramidal tract or through the anterior commissure of the cord. In destruction of portions of the cortex a new formation of motor centers may go on in neighboring gyri. The fact that even the division of both pyramidal tracts is not followed by a complete paralysis points to the presence of a number of other tracts, one of which runs from the

cortex to the optic thalamus, then to the nucleus rubra, and in the spinal cord occupies a position ventral to the lateral pyramidal tract. The optic thalamus can convey motor impulses downward by four other distinct tracts, and of these the most pronounced runs to the corpora quadrigemina and then downward in the anterior region of the cord. This generally escapes in hæmorrhages into the internal capsules. There are also a number of other connecting-links between the cortex and the basal ganglia. It thus follows that every extremity is connected with both hemispheres through direct and indirect, unilateral, and crossed fibers. Impulses may also reach the periphery by passing through the corpus callosum to the sound side, or where only part of the capsule is destroyed association-fibers may bring stimuli to neighboring centers which are still connected with the cord. The therapy is evident from these anatomical relations, and consists in training the reserve tracts. For this purpose the patient receives instruction in active motion. This is sometimes rendered easier by first passing a current through the affected limb. Passive, autopassive, and symmetrical motions also do good, as they facilitate the proper co-ordination. Even the aphasia admits of treatment, probably through vicarious activity of the surrounding brain-tissue or the opposite Broca convolution; but this treatment is often unavailing in the sensory or mixed types. The patients should begin by saying the vowels and consonants aloud, and should then be made to name objects and repeat words. Electricity in the treatment of hemiplegia is of some value, but groups of muscles rather than single ones should be faradized to imitate as much as possible co-

ordinated movements. From faradization of the head the author has seen little good. The treatment should begin early, as soon as the sensorium is clear and the temperature normal. P. Lazarus (*Zeitschrift für klinische Medizin*, vol. xlv, Nos. 3 and 4; *Medical News*, September 20, 1902).

INFANT-FEEDING.

The general statement that the upper one-fourth of a quart of cows' milk in which the cream has risen contains 10 per cent. of fat is the average of a large number of milks, but there is too much variation in different cows to enable one to figure the milk-modifications on this basis accurately. This would not be of so much consequence if the percentage of fat in the cream was always low, but too much fat in modified milk is more liable to cause digestive disturbance than too little. It is advisable, therefore, to have the percentage of fat determined in the cream at least once whenever the infant begins to use modified milk, and to repeat this at the time of the year when the cattle's food is changed. It is not advisable to modify the milk with cream in which the percentage of fat is under 10 per cent., because, if one obtains a sufficient percentage of fat in the modification, the percentage of proteids will be too high in many cases. If the percentage of fat is too low in the upper 8 ounces of one quart of "set milk," it is better to take fewer ounces off the top, determine the percentage of fat in these ounces, and use such a number of ounces of cream as contains 12 per cent. or more of fat. If more proteid is required, it can be obtained by the addition of the lower milk, which is almost free from fat. A safe rule would be to have at least one determination of fat made, no matter

how many ounces are taken from the top of the "set milk," and afterward to continue to take the same number of ounces off each time. In order to make a modification of milk in which a high percentage of fat is combined with a low percentage of proteid it is necessary to use cream that contains a high percentage of fat. In general, it is better to use a cream removed from the milk at home than to use a cream bought for this purpose, because the latter is much more likely to be stale and to have undergone changes due to heat or age. Within certain limits, accurate percentage modifications of milk are not essential to the well-being of a majority of the babies that are fed on modified milk. Proof of this is afforded by the fact that so many infants do well when fed on modified milk and yet it has been shown by the results of analysis that these modifications are rarely accurate. Unfortunately, it is not always possible to tell beforehand to which class a given case belongs, and this is a sufficient reason, even if there were no others, for modifying the milk as accurately as possible. A complete analysis of the milk requires too much time and training to make it a practical procedure, except in special cases. The determination of the percentage of fat in the cream used for modification is easily made, requires but a few minutes to do, and enables modifications of milk to be made that are accurate enough for most cases, if in addition directions for modifying are carefully given and followed. The advantage of modifications of milk furnished by establishments is that it is convenient. It relieves the family of all responsibility so far as the preparation of the infant's food is concerned. Three great objections to the use of commercial modifications of milk

are: (a) inaccurate modifications; (b) stale milks; (c) expense. (a) The claim is made by those interested in the sale of commercial modifications of milk that the percentages of fat, sugar, and proteids are accurately determined in each modification. This claim of exactness forms the basis upon which such commercial modifications of milk largely depend for their success. The twenty-six analyses given show how little dependence can be placed upon such statements. (b) People who reside beyond the limits of wagon delivery (and most people do for several months each year) have to use on Sunday and a part of Monday milk that is delivered on Saturday and of a necessity milked on Friday. It is claimed that no deleterious changes take place in these milks if they are kept cold. A sufficient number of clinical observations has been made to show that such a claim is unwarranted. (c) The cost of modifications of milk made at home is less than twenty-five cents a day. Compare this with the cost of commercial modifications of milk, to which must be added in many cases the cost of transportation. The technique of fat determined by the Babcock method is simple and easily acquired. The entire outfit, including a centrifugal machine, flasks, pipettes, and acid can be purchased for nine dollars. The time required for a fat determination by this method is about fifteen minutes. Wentworth (Boston Medical and Surgical Journal, June 26 and July 3, 1902).

INTESTINAL OBSTRUCTION.

Early diagnosis is the main factor in the saving of life in cases of bowel-obstruction. Acute intestinal obstruction is characterized by symptoms which should be recognized with reasonable

certainty in the majority of cases. If obstruction probably exists, cathartics should be withheld. Chronic, slowly-increasing obstruction may at any time become acute. Surgical advice should be sought early. In true obstruction the only remedy is surgical intervention. The choice of operation depends upon the condition of the patient. Whenever possible the cause of the obstruction should be radically removed. Beyond question, in the last stages, and probably in doubtful cases, the proper plan is to establish a fæcal fistula, and thus gain time to get the patient in condition for more radical operation. General anæsthesia is a distinct element of danger in operative cases, and when a fæcal fistula is to be established local anæsthesia should be used by preference. E. A. Balloch (*American Medicine*, August 2, 1902).

INTESTINE, SUTURING OF THE.

Suturing of the intestine with the movable forceps of Laplace or O'Hara is easy and rapid, but no protection from the entrance of fæcal matter between the line of union is afforded during the dangerous period immediately after operation. The crushing of the ends of the intestine may not be directly harmful, providing the necrosis precede no farther than the internal flange. Metallic couplers of the Murphy-button type may be rapidly applied, but so many unpleasant results have followed their use that they should never be chosen unless the element of time is of the first importance. The method of suture over some absorbable material has great possibilities. Its advantages are that complete and satisfactory suturing is more easily and thoroughly carried out over its resistant surface; it protects the line of union from infective material until

healing is complete; it maintains patency and decreases the possibility of post-operative stricture; and, when its period of usefulness is over, it disappears. In order to obtain the best results, such method should possess the following qualities: It should be easy of introduction; it should be simple and require no elaborate technique; it should be resistant and absorbable; it should be so made that the purse-string suture which encircles the ends of the gut should, as they are tightened, approximate these ends by the mere act of tightening; when in position it should present the ends of intestine in such a way as to facilitate their suturing; and it should be of such size and shape as to protect the line of suture during the period of plastic union. None of the bone bobbins on the market possesses all of these qualifications. The author presents three types of bone bobbin which attempt to supply all these requisites, one for enterectomy, one for gastro-enterostomy, and one for pylor-ectomy. The ends are conically beveled for ease in introduction, the bobbin consisting of one piece. In the center there is a depression for the bowel ends. The bobbins for gastro-enterostomy and pylor-ectomy differ from that for enterostomy in the flaring of one of the ends in order to fit the larger intestine. E. S. Bishop (*Lancet*, August 23, 1902).

INTRA-ABDOMINAL PRESSURE.

There is no such thing as a constant pressure which is the same at every point in the peritoneal cavity. The comparison between the difference in pressure in the pleural cavity and in the external air and that within the peritoneum is not justified on account of the elasticity of the abdominal walls.

In the normal condition the equilibrium between the abdominal cavity and its contents is maintained, and when the air is allowed to enter at the operating-table the intestines, even when not previously emptied, protrude only to a slight degree. If they have been thoroughly evacuated it is even possible to establish a negative intra-abdominal pressure artificially by drawing up the unopened peritoneum, the muscular wall being thoroughly relaxed under anæsthesia. Normally it cannot exist. That the pressure is never constant at all points is evident when one considers the variable conditions present in the intestines and bladder, the peristaltic movements and those of the diaphragm, the contractions of the voluntary muscles, etc. The supposed variation in pressure due to different positions is also entirely theoretical. Meyer (*Centralblatt für Gynäkologie*, No. 22, 1902).

LARYNGITIS, CHRONIC.

Chronic laryngitis may be divided into three classes as follows: 1. Systemic, in connection with valvular disease of the heart, cirrhosis of the liver, alcoholism, gout, etc. These cases are but part of a large lesion, and little special attention need be paid to the local trouble in the larynx. 2. With nasal disease, which may act in three ways: by extension of the catarrh by continuity of surface, by irritation from the discharges, and by mouth-breathing, caused by nasal obstructions. In all cases the first indication is to treat the nasal lesion thoroughly. 3. In a small number of cases the inflammation is limited to the larynx.

The cases may also be classified, as to the part of the larynx most affected, as follows:—

1. *Laryngitis chronica superior*. As

the upper part of the larynx contains much loose tissue, inflammation of the same is accompanied by considerable swelling. The vocal cords may be quite overhung by the false cords. Applications of a fine-pointed galvanocautery under cocaine and suprarenal anæsthesia have given good results. This form is often difficult to diagnosticate from tuberculous laryngitis.

2. *Laryngitis chronica media*. When the true cords are principally affected, mild cases can be cured by resting the voice and painting with a silver solution (30 grains to the ounce). Where the congestion is limited to the anterior portions of the cords it is advisable to give antisyphilitic remedies, even in the absence of history or other symptoms of syphilis. In singers faulty voice-production must be rectified before they again take up their vocation. Hæmorrhages are not very infrequent, due to enlarged vessels on the cords. If the cords are much swollen potassium iodide should be exhibited.

3. *Laryngitis chronica inferior*. The subglottic regions are often neglected, owing to difficulty of inspection. Thorough cocaine anæsthesia of the larynx renders it easy to inspect and treat these regions, and a methodical treatment (too often neglected) of the subglottic space will assist materially in the cure of obstinate cases. N. V. Haring (*British Medical Journal*, August 30, 1902).

LOBAR PNEUMONIA.

In young children the apices of the lungs are much more frequently the sites of the attacks than in adults; the younger the child, the more pronounced is the tendency for the localization of the complaint in the apices. No treatment yet devised has in any way shortened the natural course of the com-

plaint. All that is required is rest in bed in a well-ventilated apartment, at a temperature of about 65 degrees, along with careful dieting and nursing. Forced feeding should not be resorted to unless the need is very urgent, as sleep will do far more than mere food for the vast majority of children with pneumonia. In only a small minority of the cases of croupous pneumonia in children is there an urgent need for alcoholic stimulation. For the initial hyperpyrexia frequently present the author usually prescribes a full dose of opium. In the later stages a combination of hyperpyrexia and insomnia may occur; in this condition opium is strictly contra-indicated and alcohol is called for. J. A. Coutts (Edinburgh Medical Journal, September, 1902).

MEDICINE, THEORY AND OBSERVATION IN.

The medical literature of this country, and for that matter of other countries also, consists of both the chaff and the wheat. Much of what is written is a mere repetition of previous work, much is pure speculation and the application of writers' theories and fads to medical subjects. A certain proportion only consists of original observations, and it is from this that our modicum of progress every year in medicine comes. This state of affairs would be discouraging, only that it is not true in medicine alone. In every science there is the complaint of the amount of writing done for the little advance gained. In every field of thought supposedly brilliant theories usurp the place of patient investigation. Any number of mare's nests are found and exploited every year. Hence, despite the acknowledged value of scientific investigation, the popularity of the expression used by Amiel

in the *Journal Intime*: "Science is a lucid madness occupied in tabulating its own hallucinations."

Theories fall and others rise perennially to take their places. The most striking feature in the history of medicine is the successive adoption of ever-new hypotheses to accord with the scientific fad that is most prominent at the moment. Just a century ago almost to the year the great French physicist and physician Cabanis said, in a review of the medical theories of his time, that "every age has its peculiar taste and fashion. At different periods medicine has assumed the tone of the prevailing sciences. It has even endeavored to speak their language and to subject itself to the same rules; so that it has passed successively through all the different systems that have acquired any degree of celebrity in the world."

Cabanis's declaration is literally true. After Newton's discovery there was an iatro-mathematical period in medicine, especially noteworthy in England, when the reduction of therapeutics to an exact science through mathematical principles was the constant effort of the theorist. When Leibnitz ruled the world of European thought there was a period of iatro-philosophical speculation, when metaphysics seemed to promise much for medicine. After the rising science of chemistry began to make itself felt all vital reactions were explained on chemical grounds, and the horizon of medicine seemed surely bound by chemical principles. On the other hand, when physics began their notable evolution at the beginning of the present century, mechanical theories of life became predominant and therapeutics took on a physical character. It is not surprising, then, to find that the marvelous development of electricity and

the successful elucidation of the chemistry of the carbon compounds should give us in our day a crop of theories as to life and health, each with a modicum of truth perhaps, but advanced as if they represented the whole field of vital activity and pointed to the only methods proper for the correction of its faults. It would not be surprising, either, to find that these theories, so elaborately evolved, would prove of as little practical value as have so many other medical echoes of current scientific thought in the history of medicine.

As a matter of fact, the great mass of theorists in medicine have done little for science, but act as a brake on the wheels of progress. A distinguished medical professor of Bologna, when he heard that Harvey advanced, as a proof of the circulation of the blood, the fact that one could hear the heart beat, is stated to have said: "Harvey may hear the heart beat in London, but we do not in Bologna." Engaged in his theoretical speculations, he never even took the trouble to listen. When Auenbrugger made his demonstrations of the value of percussion he practically dedicated his little book on the subject, the first important contribution to the modern science of diagnosis, to his master, Van Swieten, the head of the medical clinic in Vienna. Van Swieten wrote ten volumes of commentaries on medical subjects, two of them mainly concerned with thoracic disease, without even deigning to mention the great work of his pupil. Laennec fared some better, but received not nearly the honor that went to his contemporary Broussais, the theorist, whose work, though not without its merits in a certain way, probably did more harm than good. Even in our own time Koch received all the honor at the Tenth International Medical

Congress in Berlin, in 1891, while Ramón y Cajal, who brought with him to the congress his original demonstrations in brain anatomy that have since made him so famous, attracted no attention outside of a narrow circle of nerve specialists.

It would be a priceless boon to medicine if the lesson could be learned that not brilliant speculation nor theories, however suggestive they may seem, are so much wanted as patient, painstaking observation. There are any number of subjects in which discoveries lie almost invitingly ready to be made. Within a few years a hospital interne, Dr. Head, has given us one of the most important series of clinical observations made in a half-century by a careful investigation of the superficial skin areas that are affected sympathetically when pathological conditions develop in internal organs. Opportunities for original work are not lacking for those who seek them. Expensive laboratory equipments are by no means necessary. A wise German physician said not long ago: "The gun does not make the marksman, nor the laboratory the investigator." What is needed is patience and good will, with the perseverance to follow up a subject until legitimate, practical conclusions are reached. Editorial (Journal of the American Medical Association, September 13, 1902).

MENTAL CASES, TREATMENT OF EARLY.

There is no necessity to wait until some unfortunate accident or crime necessitates the tardily-written certificate. Treatment is thus available much earlier than usual: a point the importance of which to the patient, to his friends, and to the community can scarcely be overestimated. It places "border-land"

and early cases under the same therapeutic conditions that have been found efficacious against the kindred hysteria, cerebraesthesia, and bodily disease generally, and it gives the patient greater opportunities of having frequent co-existing or causative bodily disease properly attended to. It does away with the false distinction between mental and bodily disease, and it altogether avoids the stigma and disgrace attaching to "lunatic" and "asylum." There is no signing of certificates, with its, at times, serious sequelæ to both patients and medical men, and the natural convalescing ground, the home, is much earlier and more readily available. J. W. Springthorpe (*Lancet*, June 14, 1902).

METHYL-BLUE IN CANCER.

The following solution recommended: Methyl-blue, 90 grains; 90-per-cent. alcohol and glycerin, of each, 3 drachms; water, 7 ounces. This is applied to the diseased cervix on tampons after previous curetting. A weaker solution is used for vaginal and intra-uterine irrigation. The results have been quite satisfactory, patients being kept comfortable and free from hæmorrhage and discharge for months, or even years. Pain was relieved, so that morphine could be dispensed with, and the progress of the disease was evidently delayed. Cucca and Ungaro (*Centralblatt für Gynäkologie*, No. 22, 1902).

MIGRAINE, TREATMENT OF.

The view that heredity is an important factor in the etiology of migraine is favored by the fact that it makes its appearance in early childhood and continues till after the middle third of life. Dissipation, mental strain, worry, and

loss of sleep are contributory to migrainous seizures. From the inception to the conclusion of a migrainous attack digestion is practically suspended. This condition demands the withholding of nutrients, with immediate dilution and elimination of the gastric and intestinal contents. Emesis and lavage of the stomach are efficient, but often objectionable to the patient and inconvenient to the physician. Consent is much more readily obtained for emptying the lower bowel with a soap-suds enema, followed immediately by high irrigation with large quantities of hot normal salt solution. This, with small, but oft-repeated, draughts of hot water by the mouth, continued from six to twelve hours, has given better results in treatment of migraine than any purely drug medication. Between the attacks daily and copious drinking of water will do more to lessen the severity, if not prevent recurring paroxysms, than any or all drugs with only a minimum of water ingested. J. M. Aiken (*Journal of the American Medical Association*, August 30, 1902).

MUSSELS, POISONING BY.

The symptoms following the ingestion of poisonous mollusks may assume one of three types, viz.: 1. The erythematous and least dangerous form: a rapidly developing exanthem of a very transient nature appears, and with it there is general malaise and headache. 2. The symptoms may be chiefly intestinal, and there may appear a more or less severe gastro-enteritis shortly after partaking of the mussel, or this comes on after a period of incubation and is accompanied by fever. 3. The most severe or paralytic type, characterized by acute, peripheral paralysis and resembling curare poisoning. The author

has studied this last form. In the cases observed by him either death set in so rapidly through paralysis of respiration that no real dyspnoea was present or else the symptoms were very transitory. All the muscles of the body may be involved without any definite order, and psychical excitement and muscular ataxia may be pronounced. The mode of death, with intact consciousness, is also peculiar. Nausea, with vomiting, generally occurs, but the latter symptom is not forcible or characteristic. Constipation generally exists. With so rapid a course all therapy is worthless, but if seen in time the stomach must be washed out, the patient ordered to be as quiet as possible, and heart and respiration stimulated in the usual way, if flagging. Those patients who come to autopsy have shown some swelling of the spleen and lymph-nodes of the intestines, with slight gastro-enteric irritation.

To study the toxicity of the mussels they were removed from their shells, placed in cold, 96-per-cent. alcohol for twenty-four hours, dried on a water-bath, comminuted by triturating with sand, and then extracted by boiling with alcohol, acidified with hydrochloric acid. The alcoholic solution was then evaporated and the residue dissolved in water, and this extract employed for subcutaneous injections into animals. Great variations were found in the degree of toxicity, for, while the extract prepared from mussels from a neighborhood where fatal accidents had occurred killed mice, rats, and rabbits in a few minutes, those from other places, especially if collected later in the year, were much less poisonous, and even in some instances harmless. Where death occurred the symptoms were, in general, the same: the trunk and the extremities

quickly became paralytic, respirations were labored, and immediately before death clonic convulsions set in. If the doses were smaller, the animals appeared normal for the first few minutes; soon, however, a peculiar motor unrest was evident; then the gait became unsteady, the animal fell, and the entire body lost tone. The extremities could still be moved volitionally, but with pronounced ataxia. There never was diarrhoea. In cats the pupils may become dilated, and the heart generally continues beating after the dyspnoea has led to respiratory paralysis. Examination of the different organs of the mussels showed that the poison is distributed over their entire body, but that the liver contains most of it. In a few cases the water in which the animals lived also proved toxic to mice. The chief factor which renders the mussels poisonous seems to be contamination of the sea in which they live. Either the impurities render the mollusks sick or such impurities are stored up in them and are themselves the toxic agents. Sections of the animals, however, failed to reveal any pathological changes in their organs, and the second supposition seems more probable, since the author found that the mussels would readily take up curare, strychnine, and the poisonous extract if added to their water without themselves becoming sick. It thus seems that they have a definite function in the stagnating water of harbors, and that by rendering harmful substances innocuous they purify it. The poison is readily soluble in water and alcohol, decomposes with alkalies and by bacterial action, but could not be isolated in pure form. J. Thesen (*Archiv für exper. Path. und Pharm.*, vol. xlvii, Nos. 5 and 6; *Amer. Jour. Med. Sciences*, September, 1902).

MYOMECTOMY AND HYSTERECTOMY.

A comparison of the vaginal and abdominal routes for hysterectomy suggests the following advantages in favor of the former: In cases of small uterus, and for one freely movable and low down in the pelvis. Malignant growths of the intestine or uterus or of the cervix, even when they involve the vault of the vagina, may usually be removed with ease *per vaginam*. The question whether there is secondary infiltration outside that may be more completely removed by abdominal section is another story. Myomas of the uterus, especially of the submucous variety or low down and not multiple or of large size, may usually be removed with ease *per vaginam* by morcellation. Large fibroids are more difficult to thus move. In a case of salpingitis of rather recent origin without dense adhesions, especially when the tubes are low down behind the uterus, the tubes and ovaries may be successfully removed *per vaginam* either with or without the uterus. In some cases of long-standing pelvic disease possibly associated with vaginal fistula, and in weak patients unable to endure prolonged or extensive operation, the removal of the uterus *per vaginam* is safer than laparotomy. Cases of this sort, however, are rare of recent years, but the operation is applicable to certain difficult cases.

The abdominal operation is practically suited to another series of cases: salpingitis or oöphoritis of long standing, with dense adhesions, are much better operated on by the abdominal than by the other route. The abdominal operation is, in the writer's opinion, the wiser operation for the performance of myomectomy. It gives one a better chance to see the tumor, know its con-

dition, and decide whether the uterus should be removed or not. If hysterectomy is to be performed on cases in which the uterus is bound by dense adhesions, the abdominal route gives the advantage of supporting these adhesions with greater safety when the field of the operation is in full view than it is possible to do by the sense of touch alone, and if it seems desirable to employ drainage it leaves larger freedom for the operator to choose between the removal of the cervix and drainage *per vaginam* or drainage above the pubis. In cases of very large tumors the abdominal route is, without question, the more desirable method, and, if fibroids in the uterus are numerous, it is better to employ hysterectomy than to try enucleation. In a case of pregnancy complicated by fibroid so situated as to render parturition dangerous, it is not impossible that the abdominal operation for the removal of the uterus is the safest procedure. D. P. Allen (Cleveland Medical Journal, June, 1902).

MYXEDEMA AND ECLAMPSIA.

Fecundation in myxœdematous subjects is very rarely observed, and only in the attenuated form of the disease which is either suddenly arrested in its progress, or in the atrophic form. A very interesting case of pregnancy in a cretin reported in which there were eclamptic seizures during labor, though there had been no evidence of renal disturbance of any sort prior to the onset of the labor. Though the pelvis was small, the labor was in no way unusual, except that it was tedious. The child was born. The interesting point in the case was the fact that the eclampsia should come on without any warning. There were no headaches or ocular disturbances. The writer thinks that

the cause of the convulsions is to be found in the myxœdematous condition of the patient. Jacques Reverdin and Auguste Reverdin believe that there is a marked analogy between eclamptic seizures of this order and the tetany following the ablation of the thyroid gland. Kocher also believes there is such an analogy between post-operative painful muscular contractions and a true eclampsia. Trophic disturbance and nervous troubles are observed in individuals where the thyroid body has undergone cystic degeneration of atrophic sclerosis. Brissaud believes that any disease of the parathyroids may cause marked systemic disturbance, as he thinks these may have a different physiological function from the thyroid proper. The author believes that the so-called thyroid myxœdema is not complicated by intellectual apathy, but it is the parathyroidean myxœdema, which has its manifestations in cretinoid idiocy and by cachexia. Hence in his case he believes that the parathyroids were not the cause of the convulsive attacks during parturition in his case, as they were well developed, the thyroid itself being atrophied and practically absent. If a cretin becomes pregnant, which is exceptional, and is seized in the midst of accouchement with eclampsia, then the urine will not contain albumin. A. Herrgott (Medical News, September 20, 1902).

PERICARDIUM, TAPPING OF THE.

If the heart-action is positively embarrassed by the pressure of the fluid contained in the pericardial sac, there seems to be only one opinion: *i.e.*, to relieve the pressure upon the heart at once by aspiration. In like manner, when the inflammatory effusion persists and resists all forms of treatment, judg-

ing from the satisfactory results obtained in connection with similar conditions in the pleural sac, the day may not be far distant when the pericardium will be more frequently aspirated successfully. True aspiration of the pleural and pericardial sacs is an entirely different problem from a practical and physiological standpoint, even though the pathological problem is almost identical in both. The former sac can be aspirated easily and successfully, while in the latter it will always be fraught with more or less danger. W. H. Porter (Medical News, September 6, 1902).

PERNICIOUS ANÆMIA AND GASTRIC CANCER, DIFFERENTIAL DIAGNOSIS OF.

The reduction of red cells is greater in pernicious anæmia than in cancer. The reduction of hæmoglobin relative to corpuscles is not so great in pernicious anæmia as in cancer. The average size of red cells is greater, and polychromatophilia is marked in pernicious anæmia. In cancer the cells are small and may show fissures, but not so marked polychromatophilia. Megaloblasts are present generally in greater numbers than normoblasts in pernicious anæmia; their mere presence is of great importance, as, although normoblasts are common, megaloblasts occur with very great rarity in cancer. In the absence of complication there is no leucocytosis, and in the absence of fever there is lymphocytosis in pernicious anæmia. In cancer leucocytosis is the rule; lymphocytosis does not occur. The author refers to four groups of cases, and in each group the blood characteristics have something in common: acute favorable cases; the chronic cases; the subacute cases; acute unfavorable cases. The treatment should be based on our

knowledge of the symptoms and the information to be gained by the blood-examination, rather than on our belief in any one of the various views of the pathology of the disease. Whatever view of the pathology we adopt, our main efforts as regard treatment must be directed to stimulate hæmogenesis. This can be done: (a) When the color-index is high,—say, above 0.8,—arsenic alone should be employed in very gradually increasing doses. Iron will probably do harm. (b) When the color-index is lower than 0.8, iron and arsenic should be given together. Alexander Goodall (Scottish Medical and Surgical Journal, April, 1902).

PERTUSSIS, OZONE IN.

In pertussis ozone is a specific, and a strong antispasmodic during the stage of whooping. Given in inhalations of 10 minutes, three or four times in the twenty-four hours, it causes marked diminution in the number of paroxysms, and seems to prevent recurrence. It decreases cyanosis, and seems to aid in the amelioration of a complicating pneumonia. The time between paroxysms is often shortened, and the cough is attenuated in intensity, violence, and duration. The treatment should be kept up two weeks at least. It is perfectly harmless. Louis Delherm (*Archives de Médecine des Enfants*, May, 1902).

PESSARY, PRESENT STATUS OF.

This instrument ought not be entirely disregarded, and, now that the indications for its use are better understood and are on a more scientific basis, its former position is being partially regained. In uncomplicated cases in young women who have not had treatment operation should be advised. Op-

eration also is the only method which holds out prospects of a cure in cases complicated with lacerations, enlarged uterus, or much prolapse. Otherwise, where the uterus is small, where symptoms have been present but a short time, and particularly if they are associated with neurasthenia, treatment by pessary will often result in a cure. In such selected cases cure may be expected in one-half. Even in cases where a cure cannot be hoped for by pessary its temporary use is often of value in relieving symptoms and in aiding to restore the general health. F. H. Davenport (*Boston Medical and Surgical Journal*, August 7, 1902).

PLACENTA PRÆVIA AND CÆSAREAN SECTION.

Cæsarean section in certain cases of placenta prævia has a fairly well-defined standing; its limits cannot, as yet, be accurately defined. At present it seems that the conservative Sanger should be performed in cases of: 1. Complete prævia. 2. Prævia in primiparæ in the presence of severe hæmorrhage or a rigid os. 3. Where there is a history of previous operative delivery. 4. It should be considered in all cases of placenta prævia where version is indicated if a reasonably skilled surgeon is available. 5. All of these indications are based upon a probable viable child: twenty-eight weeks of gestation and upward. F. D. Donoghue (*Journal of the American Medical Association*, September 13, 1902).

PNEUMONIA, FEVER AND RESPIRATION IN.

Respiration depends not so much upon inability of the consolidated lung to perform its function properly as upon

the greater or lesser virulence of the toxins elaborated, which stimulate the respiratory center as they do the thermic. Many cases of extensive consolidation run their course with but slight fever, whereas limited consolidation may give rise to extreme elevations of temperature; and that in delayed resolution of pneumonia respiratory disturbance ceases with the subsidence of fever, while consolidation still persists, and before the lung might be supposed to have regained its normal power of aëration. Hence respiratory and febrile disturbances are in relation as to their intensity with the virulence of the toxins elaborated. M. Sangiovanni (*Gazzetta degli Ospedali*, August 3, 1902).

PROSTATECTOMY.

Great relief can be given to all patients suffering from symptoms due to obstructing enlargement of the prostate, either by palliative or by operative means. The time to resort to operative measures is just as soon as palliative treatment, carefully executed by competent hands, has failed to give relief. Complete prostatectomy is always the operation of choice, because it is the only operative procedure which cures or gives uniformly good results, when successfully performed in proper cases. The best time for its performance is just as soon as palliative efforts have failed or are manifestly impossible of execution and before secondary changes in the bladder and kidneys, due to long-continued obstruction, have taken place. In those cases that come for surgical relief so late in the development of the pathological conditions, that the bladder and kidneys are extensively diseased and the patient is manifestly exhausted by long-continued suffering, other less certain and perhaps less severe measures

may be advised, instead of a complete prostatectomy; but such a decision can only be and must always be made by the surgeon for the individual case, and cannot be made the subject of a generalization. Paul Thorndike (*Boston Medical and Surgical Journal*, August 28, 1902).

PULMONARY CONSUMPTION, TREATMENT OF.

The essentials of the sanatorium treatment are: A continuous supply of fresh air with no unnatural changes of temperature and the avoidance of all sources of irritation from dust and the like; good nourishing food in sufficient quantity to establish and to maintain the normal body-weight of the patient; an absolutely regular life, so arranged that neither the lungs nor any portion of the body is allowed to be put to any strain; and graduated exercise without strain. A. Latham (*Lancet*, August 16, 1902).

PYLOROPLASTY, NEW METHOD OF.

The first plastic operation for the relief of a benign stricture of the pylorus was performed by Heineke in 1886. A few months later Mikulicz made use of exactly the same procedure, being at the time in ignorance of the work of Heineke. This operation has since borne the names of these two surgeons.

Before discussing the relative advantages and disadvantages of their particular method, a word or two concerning other operative procedures designed to accomplish the same result will not be out of place.

The methods used in the treatment of non-malignant stricture of the pylorus seem, all of them, open to certain special objections. Digital or instrumental divulsion of the pylorus, whether

by the method of Loreta or Hahn, has proven very unsatisfactory, as judged both by immediate risks and final results, and has been practically abandoned.

Jaboulay, in 1892, proposed the operation of gastroduodenostomy. Modifications of this method have been suggested by Duranti and Henle, but it has never met with much favor on the part of the profession. This operation was performed by the author three years ago, in a case of pyloric stricture from old ulcer. The condition of the patient, an old lady, has been improved, but not entirely relieved. It was the partial failure in this case that led the writer to seek a better method.

The operation of pylorotomy, on account of the greater technical difficulties and increased danger in its performance, must of necessity remain of limited usefulness. Theoretically, of course, it is the ideal operation, but practically, except in rare instances, malignant disease is its sole indication.

Gastro-enterostomy, devised by Nicoladoni in 1881, seems at the present time to be the operation of choice with the majority of surgeons, and the weight of surgical authority is decidedly in its favor.

But as to the relative merits or demerits of this operation, performed by whatever method, there still exists among surgeons great diversity of opinion. Call it by whatever name you will, explain it as you may as being due to the reflux of bile into the stomach, or as resulting from the presence, in the duodenum, of particles of partially digested food, the fact remains that the "circulus viciosus" of the Germans is present in a not inconsiderable percentage of cases, and, when it does occur, it is productive of much discomfort to the patient, and

is a grave menace to the success of the operation.

While it is undoubtedly true that, for some reason or other, this percentage varies much in the hands of individual operators of large experience, still, in the aggregate, the danger and suffering from this source are so great as to make it well worth while to eliminate it altogether, if it were possible. The great *desideratum*, of course, is to establish an opening between the stomach and bowel which will remain patulous, and through which, at the same time, the bile and stomach-contents will not tend to regurgitate.

From a careful study of the subject it would seem that the Heineke-Mikulicz operation, while having in selected cases definite advantages over any other operation, still has certain recognized objections. Attempts to overcome these defects have been made by several operators. Richardson, of Boston, advocates an oval or diamond-shaped incision through the pylorus, which accomplishes the excision of the anterior portion of the stricture and leaves only the posterior wall as a hinge upon which the duodenum and stomach are brought together. Mayo Robson speaks with favor of this method, and Morrison has recently reported several cases in which he has made use of the same procedure with success. Koepelin and Jaboulay recommend what they call "submucous pyloroplasty," in which the incision is carried down to, but not through, the mucosa. The divided serous, muscular and submucous coats are then united in the usual way. They maintain that this modification is safer than the original method, the danger of sepsis being done away with. Enough cases, however, have not been reported to determine its usefulness, and it would seem,

theoretically, at least, of doubtful utility. Mayo Robson advocates the use of an "internal splint in the shape of a bone bobbin over which to apply the sutures," a method, which, he states, has been employed in all his operations, and one which offers several advantages, for instance: "Only two continuous sutures are required, for the mucous and peritoneal margins, respectively. The bone tube secures an immediate and thoroughly patent channel, which affords protection for from twenty-four to forty-eight hours to the line of sutures, by which time union should be established. And it prevents the new channel being inadvertently made too narrow." This modification has been followed by other surgeons with success.

The operation which the writer proposes is practically a modification of the method of lateral anastomosis suggested by Dr. Halsted. He has performed the operation five times. In all of his cases the pylorus was more or less adherent to the surrounding structures, abdominal wall, liver, gall-bladder, omentum, and colon. In all the cases the operation was carried out, notwithstanding the adhesions and thickened walls of the pylorus and stomach, with entire satisfaction, and in four cases the result has been complete relief from all unfavorable symptoms. The fifth case has been operated upon too recently to judge, as yet, as to the result; but so far, he has been entirely relieved of his trouble, eats anything, and is gaining steadily in weight. The operation is as follows:—

The adhesions binding the pylorus to the neighboring structures should be divided; also the pyloric end of the stomach and first portion of the duodenum freed as thoroughly as possible. Upon the thoroughness with which the

pylorus, lower end of the stomach, and upper end of the duodenum are freed depends, in large measure, the success of the operation, and the ease and rapidity of its performance. This is emphasized as one of the most important points in the operation. Frequently, at first sight, the pylorus may seem hopelessly bound down, when, after a little patient toil and judicious use of the scalpel and blunt dissector, it is found that it can be freed with comparative ease. A suture, to be used as a retractor, is taken in the upper wall of the pylorus, which is then retracted upward. A second suture is then inserted into the anterior wall of the stomach, and a third into the anterior wall of the duodenum, at equidistant points—say, about twelve centimeters—from the suture just described in the pylorus. These second sutures mark the lower ends of the gastric and duodenal incisions, respectively. They should be placed as low as possible in order that the new pylorus may be amply large. Traction is then made upward on the pyloric suture, and downward in the same plane, on the gastric and duodenal sutures. This keeps the stomach and duodenal walls taut, and allows the placing of the sutures with greater facility than if the walls remained lax. (See Fig. 1.) The peritoneal surfaces of the duodenum and stomach, along its greater curvature, are then sutured together, as far posteriorly as possible. (See Fig. 2.) For this row the use of the continuous suture is recommended, as it is more easily and quickly applied, and it can be reinforced after the stomach and duodenum have been incised. After the posterior line of sutures has been placed, an anterior row of mattress sutures is taken, which are not tied, but left long, in the man-

ner indicated in Fig. 3. These sutures, after they have been placed, are re-

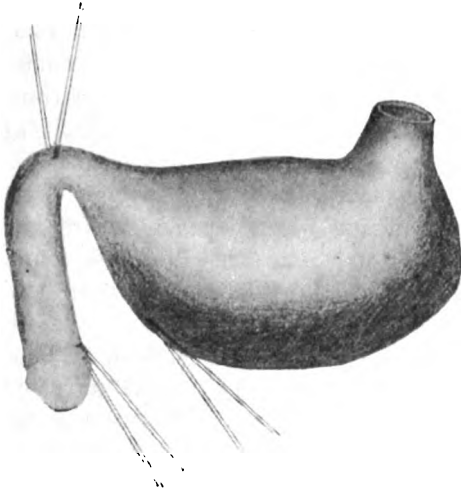


Fig. 1.

tracted vertically in either direction from the middle of the portion included in the row of sutures. (See Fig. 4.)

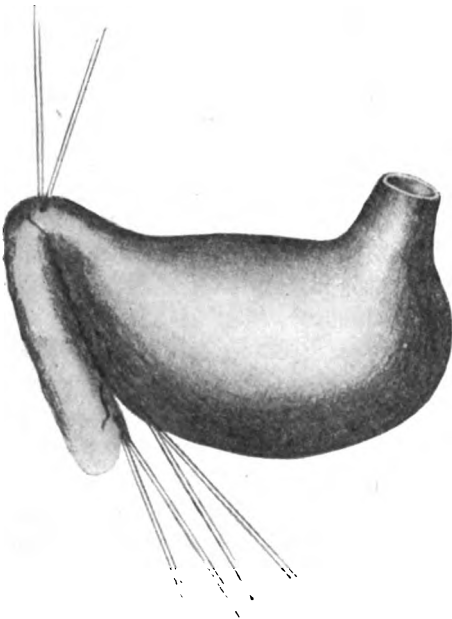


Fig. 2.

Then after all the stitches have been placed and retracted, the incision is

made in the shape of a horseshoe. The sutures should be placed far enough apart to give ample room for the incision. The gastric arm of the incision is made through the stomach-wall just inside the lowest point of the line of sutures, and is carried up to and through the pylorus and around into the duodenum, down to the corresponding point on the duodenal side. Hæmorrhage is then stopped. It is well to excise as much as possible of the scar-tissue upon either side of the incision in order to

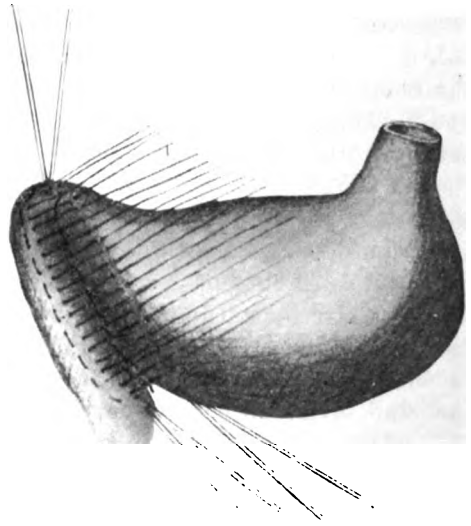


Fig. 3.

limit, as far as possible, the subsequent contraction of the cicatrix. This procedure was carried out in two of the author's cases with great satisfaction, and is strongly recommended in all cases where the walls of the pylorus are much thickened and there is much scar-tissue present. It is well, too, to trim off with scissors redundant edges of mucous membrane, in order to prevent the formation of a valve-like fold of mucous membrane at the new pylorus. A continuous catgut suture is now taken

through and through all the coats of the intestine on the posterior side of the incision. (See Fig. 5.) This reinforces the posterior line of sutures, secures better approximation of the cut edges of the mucous membrane, and prevents the reunion of the divided intestinal walls. The anterior sutures are then straightened out and tied, and the operation is complete, unless one wishes to reinforce the mattress sutures with a few Lembert stitches. (See Fig. 6.) This procedure, as is readily seen, gives the minimum of exposure of infected

lower limit of the new outlet is at or near the level of its most dependent portion.

When the stomach is much dilated,

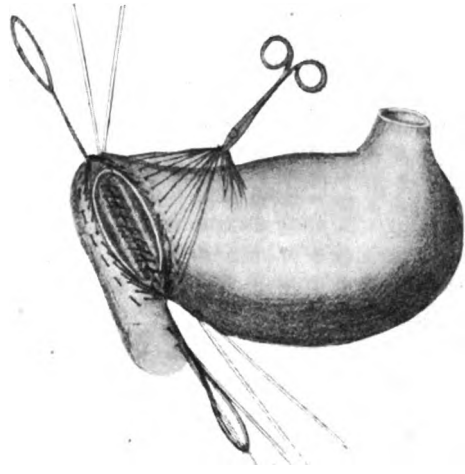


Fig. 5.

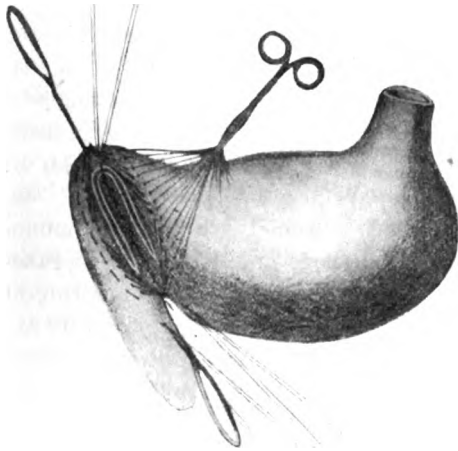


Fig. 4.

surface. All the stitches are placed and the posterior row tied, before the bowel is opened, and it remains open just long enough to control the hæmorrhage. The size of the newly-formed pyloric opening is limited in this operation only by the mobility of the stomach and duodenum and the judgment of the operator. In all of the author's cases the incision has been about twelve centimeters in length, and could have been made longer, had he chosen to make it so. Unless the stomach is very much dilated or has descended to an unusual extent, the

there is no contra-indication in this operation to the performance, at the same time, of gastropexy or gastroplication, if one considers them indicated.

In the matter of mortality, statistics,

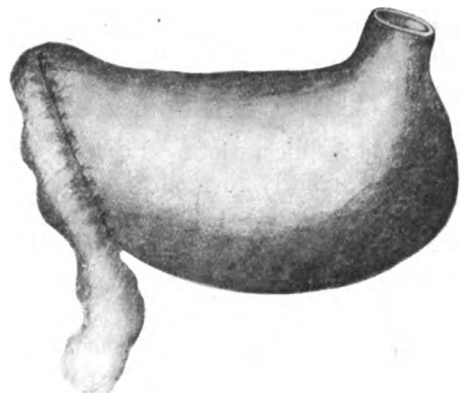


Fig. 6.

notoriously unreliable in cases of this sort, seem to slightly favor pyloroplasty as against gastro-enterostomy. But, nevertheless, the latter operation num-

bers among its staunchest advocates some of the foremost names in the surgical world. Furthermore, it cannot be denied that during the past few years the operation of pyloroplasty has fallen somewhat into disfavor, partly because of the number of recurrences following it; and partly because of the improved methods recently introduced, and the increased facility in performing the operation of gastro-enterostomy. Mechanical devices, such as the Murphy button and the bone bobbin of Mayo Robson, have contributed not a little to the accomplishment of this result. The range of usefulness of gastro-enterostomy is, of course, much wider than that of pyloroplasty, which obviously must be restricted to cases of benign stricture of the pylorus, although Morrison reports a case of early carcinoma of the pylorus treated in this way through mistaken diagnosis, with a result quite as satisfactory as that usually obtained by more radical methods.

The especial objections that have been urged against the Heineke-Mikulicz operation are:—

1. Its inapplicability in cases of extensive and firm adhesions about the pylorus.
2. Its inapplicability in the presence of still active ulceration.
3. The liability to recurrence of the stricture due to contraction of the scar.
4. The inability to obtain good apposition on account of rigidity of the walls of the stomach and duodenum.
5. The outlet of the stomach is not placed at the most dependent portion; hence in the presence of motor insufficiency the aid of gravity in emptying the stomach is lost.

The effect of some of these objections to the operation is lessened by the modifications suggested by Richardson, Mor-

rison, and others, to which reference has already been made, but the validity of the others has been established by repeated observations.

All of these objections, with the possible exception of the second,—viz.: still active ulceration,—are overcome by the method here suggested. The author is convinced that adhesions, however firm or extensive, constitute no bar to this operation. With care and perseverance they can be separated. If the new pylorus is made sufficiently large, the danger of subsequent contraction is reduced to a minimum. Excision of the anterior portion of the thickened pylorus, and, if necessary, the adjacent portions of the gastric and duodenal walls, lessens materially the danger of subsequent contraction, and at the same time allows of easy approximation of the two surfaces.

In an extremely interesting monograph by Carle and Fantino, the functional results following the operation of gastro-enterostomy and pyloroplasty are compared. Robson summarizes their findings briefly as follows:—

“Points in favor of pyloroplasty:—

“1. Regurgitation of bile into the stomach is prevented.

“2. Secretion by hydrochloric acid, when it has been excessive, becomes normal.

“3. If the secretion of hydrochloric acid has been diminished or absent before the operation, it remains *in statu quo* after operation.

“4. If there has been primary gastric atony, peristalsis is but little improved.

“5. This function improves rapidly or reaches perfection if the muscular contractility has been normal or increased, and when the obstruction was due to fibrous stenosis or pyloric spasm.

“6. In all such cases evacuation of

the stomach is accomplished in its physiological period. Only in rare cases, and these only in the first months after operation, may it be delayed.

"7. The capacity of the stomach always decreases, but rarely becomes as small as normal.

"8. The pylorus recovers tone.

"Points of difference between the results of pyloroplasty and gastro-enterostomy:—

"1. The absence of regurgitation of bile, and hence the absence of any biliary influence on the gastric secretions.

"2. The evacuation of the stomach is not accelerated; hence the difficulty the stomach has in reaching its normal size.

"3. The slight or negative result obtained by pyloroplasty in obstruction from primary gastric atony compared to the positive results from posterior gastro-enterostomy."

A word as to the preparation of patients for this operation.

Accumulated clinical experience has proven that it is unnecessary and often harmful to put patients through a long course of preliminary treatment. The observations of Cushing in the Johns Hopkins Hospital, upon the bacteriological examination of the stomach-contents, show that cleansing the mouth and teeth carefully with antiseptic washes and the administration of sterile food only will quickly render the stomach-contents innocuous. The treatment carried out in all of the author's cases was as follows:—

For two or three days before the operation the mouth and teeth were carefully cleansed with carbolic solution and only sterile liquid food and water administered. The stomach was irrigated night and morning, just before operation, with boiled water. No food at all was given by mouth for the twelve hours

preceding operation. Cultures were taken from the stomach-contents in three of the cases, and two were found to be sterile. The skin preparation is the same as for all abdominal cases. The incision through the right rectus muscle preferred, and made sufficiently long to give abundant room: say, six to eight inches. The greatest care is exercised in protecting the abdominal cavity from soiling by extravasated stomach-contents by the liberal use of Mikulicz's pads of sterile gauze. In two cases Schleich's solution and 1-per-cent. solution of cocaine were made use of, but ether had to be substituted in small quantity toward the close of the operation. The abdominal wound is closed without drainage. Nothing is given by mouth for the first thirty-six to forty-eight hours. Enemata of salt solution and coffee are given every five hours, for the first twenty-four hours, after which time nutritive enemata are alternated with the salt solution. Water in small quantities is allowed early. On the second or third day albumin in teaspoonful doses is administered, and, if borne well, broths and milk are rapidly added.

Patients, particularly weak ones, are not required to lie flat on the back, but are encouraged to turn and even allowed to be propped up in bed very soon after the operation. J. M. T. Finney (*Bulletin of the Johns Hopkins Hospital*, July, 1902).

RADIAL ACTIVITY OF MATTER.

The newly discovered property of matter, radial activity, which has been described by M. Henri Becquerel, opens a new field for study in physiological chemistry. In a most readable article by Professor Duncan, published in the August number of *Harper's Magazine*,

a few of the physiological and chemical actions of these Becquerel rays are mentioned.

They will change bichloride of mercury into calomel, yellow phosphorus into red, and oxygen into ozone. They spontaneously render the air a conductor of electricity; so that electrically charged bodies are discharged upon the approach of material possessing this radial activity. A pinch of radium chloride, which possess this new property to a marked degree, was sealed in a test-tube by Professor Curie, who then placed it in a cardboard box, which he fastened to his coat-sleeve. When the box had been in that position for an hour and a half intense inflammation of the arm was found to have set in. This was followed by a suppurating wound, which required three months to heal.

Any substance placed near radium chloride acquires radial activity. This is so marked that it is inadvisable to keep radium chloride in the laboratory. Even the clothes and body may become so charged with Becquerel rays that experiments cannot be undertaken until the power has been expended. Sometimes this requires several days. Innumerable questions must arise in the mind of the scientist which may lead to endless experiments with radial activity and possibly give to the armamentarium of the physician a strength never before realized. The bacteriologist, the physiologist, and the therapist, as well as the chemist, have here a new inviting field for labor.

That there is such a property of matter as radial activity, and that these light-rays are not, like phosphorescence, acquired by exposure to sunlight, but denote an active property of matter itself, is proved beyond a doubt. Becque-

rel rays are found to be composed of two kinds of rays existing together. One set of rays can be deflected by a magnet, being therein similar to cathode rays, while the other set, being undeviable, resemble x-rays. The significance of this can only be conjectured.

The distinguished French ophthalmologist, Professor Javal, who is himself blind as the result of chronic glaucoma, has recently been experimenting with certain of these radiant metals, with the idea of their possible use for diagnostic purposes in eye-diseases, as well as for enabling blind persons to see certain objects. When the ocular media are obscure it is sometimes very important to know whether the nerve-endings in the retina still possess the power of perception. The radiations from these metals can penetrate opacities of the lens and produce sensations of light in the retina. Moreover, in cases where there are also disturbances in the vitreous body these radiations penetrate to the retina and produce their effect. Dr. Javal's work may prove of more practical significance than has been thought, and careful following of the subject may give another auxiliary to ophthalmology.

Another generation may see as wonderful advances in medicine and surgery as the last has seen, and much of this progress may be due to the discovery of radial activity. Editorial (*Medical News*, September 20, 1902).

RHEUMATISM, ACUTE.

Acute gonorrhœal arthritis, which may be multiple, but is more often monarticular, is caused by the gonococcus and staphylococcus. Septic arthritis, puerperal or otherwise, of streptococcic infection, is generally purulent.

The secondary multiple arthritis of acute infectious diseases can be easily differentiated. Multiple neuritis concerning the upper and lower limbs resembles acute rheumatism. Acute osteomyelitis and necrosis of bone may be multiple and mistaken for the above disease. Gout and acute rheumatism will not be easily confounded. Leonard Weber (Medical News, August 23, 1902).

SARCOMA, INFLUENCE OF ROENTGEN RAY UPON.

Series of fourteen cases showing that the results in the cases thus far treated prove that the Roentgen ray has a remarkable inhibitory action upon the growth of all forms of malignant disease, and that this is especially true of sarcoma.

This action in many cases of even far-advanced and inoperable malignant disease may result in the total disappearance of the tumors, often without any breaking down of the tissues, the new growth being apparently absorbed. Whether the patients have been cured, or the disease has been merely arrested, to reappear at some future date, is a question that time alone can decide. Recent observations and experiments upon the various forms of carcinoma and sarcoma prove that an agent supposed to be of value only in a very limited class of superficial epitheliomas promises to be of as great or even greater value in practically every variety of cancer.

While at present there is little evidence to show that deep-seated tumors in the abdomen and pelvis can be cured or benefited by the Roentgen ray, there is still some reason to hope that, with improved apparatus or with greater knowledge and skill in using the appa-

ratus that we now have, even these cases may be benefited. W. B. Coley (Medical News, September 20, 1902).

SCARLET FEVER, RETURN-CASES.

Return-cases are caused by the carrying home of infection by patients returning from hospitals. They are essentially a hospital phenomenon. The infective influence persists for a much longer period than was at first supposed. Discharges from the nasal and aural passages and unhealthy conditions of the nasal mucous membrane are most frequently associated with the carrying of infection. The fatality of returning cases is above the average. The connection between the occurrence of return-cases and overcrowding of hospitals is an established fact. As to the nature and origin of the infection carried out from the hospital, which is derived from contact with acute cases, the infection being inhaled and stored in the nasal cavity, it may be suggested that, if mere contact with acute cases was the cause, nurses would carry the infection out of the hospital, which rarely happens; if the infection were extraneous, we would expect it to lose its activity very quickly after the patient is removed from the infective atmosphere, which is not the case, and there is an almost certain connection between the existence of an aural discharge and the carrying of infection. C. K. Millard (British Medical Journal, August 16, 1902).

SEPTUM, SIMPLIFIED OPERATIVE METHOD FOR DEFLECTION OF.

This consists in a combination of the operations of Roberts and Moure. After cocainizing both sides of the nasal septum, a stout darning-needle is introduced into the free nostril and passed through the septum on the concave

side anterior to the concavity. Having passed through to the other side, it is then used as a lever to press back the convex part into the concave side, and is then passed back through the septum so as to retain it in this position. Nitrous-oxide gas is now administered and Moure's shears introduced; the cartilage is cut through horizontally below the deflection, and then obliquely in front of it and above it, parallel to the ridge of the nose, the incisions not meeting below and in front. The cartilage is then manipulated at the incisions so as to encourage overriding, and the needle is left *in situ* for a week, a piece of rubber tubing being placed over it, to lessen the pressure on the soft parts in front. When the deflection is accompanied by any considerable amount of thickening, this should be shaved off beforehand, preferably at an interval of a couple of weeks, though it may be done at the time. Dundas Grant (British Medical Journal, August 30, 1902).

SYPHILIS, SECONDARY, MUSCULAR CONTRACTION IN.

Further cases of a somewhat rare result of secondary syphilis which has been already described by Ricord and Lancereaux. The condition is a form of contracture affecting principally the biceps, first manifesting itself by pain of an increasing character and most marked at night. The muscles become shortened. The patient finds that he has difficulty in extending the forearm and the upper arm. The contracture increases, and the limb becomes more flexed, so that considerable inconvenience and even deformity result. Finally, the forearm may be flexed on the upper at an acute angle. On palpation the biceps shows an increase in volume

and consistence, and is very rigid. Sensation is exaggerated, and on pinching the muscle a rapid and localized contraction appears, and may last for half an hour. The muscle itself is shortened as well as thickened. If passive extension be tried, the forearm left to itself will return to the flexed position. This condition is most frequently met with in syphilitic patients of marked neuropathic tendency, and usually occurs in the first twelve or fifteen months of the disease. The muscles of the upper arm are not the only ones liable to be affected, as the calf-, the thigh-, and the ham- muscles may show the same symptoms. The prognosis is usually good, as the muscular contracture disappears of itself, notwithstanding that the subjects in which it occurs are frequently extremely debilitated. The patient may, therefore, be rendered incapable of any form of employment while the contracture lasts. Whatever its duration, the muscles do not seem to undergo any alteration of structure of either atrophic or degenerative character. It is not easy to explain the phenomenon. The writer suggests that it is due to a purely neural irritability of the muscle-substance. Antisyphilitic treatment does not seem to have much influence on the contracted muscle. It is, therefore, advisable to employ massage and intramuscular injections of water in addition to the treatment for the general constitutional disease. Bigot (Thèse de Toulouse; British Medical Journal, September 13, 1902).

TUBERCULOSIS, THE INTERCOMMUNICABILITY OF HUMAN AND BOVINE.

The following conclusions are reached after a series of experiments: Human and bovine tuberculosis are but slightly

different manifestations of one and the same disease; they are intercommunicable. Bovine tuberculosis is, therefore, a menace to human health. We are not in a position at present to define positively the extent of this danger, but that it really exists cannot be denied. In the past there has probably been a tendency to exaggeration; however great this may have been, it does not now justify any attempt at belittling the risk, and it is folly to blind ourselves to it.

The eradication of bovine tuberculosis is amply justifiable from a purely economical standpoint; viewed in its bearing on human health, it becomes a public duty. M. P. Ravenel (Medicine, August, 1902).

TUBERCULOUS CHEST, SHAPE OF THE.

In the July number of the *Fraternal Medical Examiner* Dr. Woods Hutchinson returns to this subject, his first communication on which was made to the British Medical Association in 1899, and published a few months later in the *British Medical Journal*. Dr. Hutchinson is satisfied—and the data he gives in support of his opinion are of great weight—that the tuberculous chest, “instead of being, as we have from time immemorial been assured by all authorities, both lay and professional, flat, is on the contrary, round: that the antero-posterior diameter, instead of being diminished relatively to the transverse, is actually increased.”

Dr. Hutchinson became interested in this subject six years ago while studying the differences between the human and quadrupedal chest. Examining tuberculous chests, he found, to his surprise, that the antero-posterior diameter was, in all cases examined, proportionally

greater in regard to the transverse diameter than in normal cases. He formulated an index on the plan used in cephalic measurements, by taking the transverse diameter as equal to 100, and measuring the antero-posterior in hundredths of it. Fifty measurements in normal subjects gave him a fairly constant ratio of antero-posterior to transverse as 70 to 100. Dr. Seaver's investigations in the Yale gymnasium, in 2300 cases, gave almost precisely the same. On the other hand, the average ratio in 40 tuberculous cases was as $79\frac{1}{2}$ to 100.

Dr. Hutchinson has since strengthened his position by the addition of upward of 120 fresh observations, all of which bear out his conclusion, namely: that the chest index is about 10 per cent. greater in tuberculous chests than in normal ones, notwithstanding the universal opinion to the contrary. Dr. Hutchinson considers, since investigation shows that the round chest is the normal in infant- and child-life, that this chest in tuberculosis is “a persistent immature chest.” The “flat chest of tuberculosis” is based on an optical illusion. “The flat-chested individual,” says Dr. Hutchinson, “is almost invariably round-shouldered; and if you simply take the trouble to put your flat-chested child or consumptive upon a low stool, place your knee in the middle of his back, a hand on each shoulder, and pull the shoulders back into something like their normal condition, you will at once see, on looking down the front of his chest, that the actual shape of the rib-cage is rounded and barrel-like.” The condition of the shoulders is due to the shape of the chest. The practical result of these conditions is that Dr. Hutchinson has “come to regard the presence, in sus-

picious cases of persons over eighteen years of age, of a chest index of 76 or higher as at least strong presumptive evidence of either the existence of pulmonary tuberculosis or a strong predisposition thereto." It is, therefore, of great value as an aid to early diagnosis, and we can indorse the author's suggestion "that the taking of the chest index should be made a routine part of the physical examination of school-children and students." Further, a therapeutic measure is obvious in the vigorous exercise of the arm- and shoulder-group of muscles, to which has been due the reversal of the thoracic axes in the evolution of man from the quadrupedal condition. Editorial (New York Medical Journal, September 13, 1902).

TYPHOID FEVER.

Series of 420 cases of typhoid fever treated at the medical clinic of Rostock in the course of seven years, with 47 deaths, or $11\frac{2}{10}$ per cent. In the Grand Duchy of Mecklenburg there were at the same time 439 cases with a mortality of $9\frac{8}{10}$ per cent. The proportion of the cases to the population was approximately 1 per 1000. In many instances there was a distinct relation between the epidemic and infection of the drinking-water. From a consideration of the statistics of 97 cases observed in the year 1900, it appears that in the majority of cases the disease developed slowly with headache and malaise. Chills were rare; in a few cases there was vomiting, and in these the disease commenced acutely. Initial angina occurred in only 1 case. Usually there was constipation, followed by slight diarrhoea. Intestinal hæmorrhage occurred 6 times. Three of these died. Treatment consisted of baths during the day and phenacetin in 4-grain doses

during the evening and night. Relapse occurred in 17 cases, and was independent of any disturbance of diet. In 62 cases the typical roseolar eruption occurred, and sometimes was more pronounced in the severe cases. In 1 case of 30 investigated the eruption was noticed on the epiglottis. In 86 cases the spleen was palpable. The Widal reaction was tested in 46 cases and was negative in 10. In 10 cases tested during the first week it was negative in 2 and doubtful in 1. The diazo-reaction was found of considerable value in the earlier stages. Hypoleucocytosis was also important, and, according to the authors, occurs earlier than the Widal reaction. Antityphoid serum was used in 2 cases, and was in both successful. One of these was a woman with an excessively severe attack. The course of the disease did not appear to be shortened. Meat-juice in wine or bouillon, or even pure, was of considerable value in the treatment. The meteorism was treated either by an ice-pack or the introduction of the rectal tube. Kuehn and Sucksdorff (*Deutsches Archiv für klin. Med.*, Bd. lxxi, Ht. 4 und 5, 1902; *Phila. Med. Jour.*, Aug. 30, 1902).

TYPHOID FEVER, EFFECTS OF INOCULATION AGAINST.

The period of greatest susceptibility to enteric fever is from 20 to 25 years of age, this being true for the inoculated as well as for the non-inoculated individuals. Before the age of 30 the advantage of single inoculation is distinct. The incidence of enteric fever up to the age of 30 in the writer's investigations was 27 per cent., against 51 per cent. among those not inoculated. Beyond the age of 30 the position is the reverse, and the advantage is with the non-

inoculated, the incidence among them being then 14.3 per cent. against 27.4 per cent. among those inoculated once. These figures seem to suggest that, as the period of natural susceptibility to the disease is passing away, inoculation is to be avoided as likely to increase the liability to infection. The whole question of immunity is evidently and admittedly a most difficult and complicated one. Alexander Crombie (*Lancet*, August 16, 1902).

TYPHOID FEVER, NERVOUS SYMPTOMS IN.

Cephalalgia and insomnia are often present early in typhoid. This followed by somnolence, delirium, subsultus, etc. Convulsions, however, occur rarely. Case of typhoid in a man of 40, with epileptiform convulsions. The Widal reaction was positive and the patient recovered. There was no albuminuria at any time. The author believes that the typhoid intoxication caused organic changes in the temperature centers, and this irritation resulted in convulsions. An increase in the pressure of the cerebro-spinal fluid may cause marked nervous symptoms. Bathing proved beneficial. C. Hoedlmoser (*Wiener klinische Wochenschrift*, June 5, 1902).

URETERAL OPERATIONS, KNEE-CHEST POSTURE IN SOME.

The method advocated consists in placing the patient in the knee-breast posture, and then letting air into the bladder through a catheter or a speculum. If the posterior vaginal wall is now lifted up so as to expose the entire anterior vaginal wall from cervix to urethra, a suitably curved knife may be plunged through the vesico-vaginal sep-

tum into the air-distended bladder, and if the knife is sharpened on both edges the cut can easily be lengthened fore and aft from the cervix to the urethra, if it is desirable to make such a large incision. An artificial anæmia of the bladder is induced by this posture, and whatever blood escapes from the cut runs down into the capacious reservoir and in no way obscures the field of operation. A vesical calculus of any size can now be lifted out; the sides of the incision can be retracted and the vesical walls be exposed; any part of the vesical wall can be caught and drawn up into the incision into the vagina and excised and sutured, removing, in this way, papillomata and tumors or ulcerated patches. In short, this simple procedure puts the entire field of vesical surgery upon a new and different basis.

The advantages claimed are the following:—

1. The opening into the bladder is made in a few seconds, and can be extended from cervix to urethra so as to include the entire base of the bladder.

2. In some cases after catheterizing the ureters, so as to mark their location, a wide lateral incision, or two incisions, can be made to secure a still wider exposure and render the remoter parts of the bladder more accessible.

3. The opening into the bladder is made more accessible by a strong retraction of the perineum with a Sims speculum, pulling in the direction of the sacrum.

4. The anterior vesical wall can be reached best by inserting a retractor, 2.5 to 3 centimeters in width, into the bladder through the incision, and then using it to draw the incision down to the vaginal orifice, producing a displacement of 4 or 5 centimeters.

5. A beautiful means of inspection of

all the parts of the bladder is afforded by means of a large cylindrical speculum about 12 centimeters in length and about 3 in diameter, with a large handle similar to the author's proctoscopes.

6. For operations on the vertex and lateral vesical walls the assistant's hands may be of the utmost service in pushing the bladder up into the vaginal wound; in this way a tumor or an area of ulceration at the top of the bladder can often be removed with as much ease as a growth in the anterior vaginal wall.

The closure of the vesical wound is most easily and quickly effected; the author commonly uses silk-worm-gut sutures, applying the first one in the center of the cut.

The operator is not troubled by any bleeding in any stage of the investigation, as the blood all runs down into the bladder. H. A. Kelly (*Journal of the American Medical Association*, August 9, 1902).

URETHRA, AUTO-REINFECTIONS OF.

In prostatic gonococcal auto-reinfections of the urethra the indications are as follows: Early and vigorous efforts should be made to prevent gonorrhœal prostatitis. Once established, all care should be taken to prevent it from becoming follicular and chronic. Auto-reinfections of the urethra from chronic prostatitis can be differentiated from acute infections. An opinion on the probabilities of future recrudescences should be very guarded. Each prostatic massage should be immediately followed by thorough irrigation of both portions of the urethra, to prevent recurrent acute urethritis. Omission of this irrigation is sometimes permissible for diagnostic purposes. T. M. Townsend (*Medical Record*, September 6, 1902).

VACCINATION, ACCIDENTS AND UN-TOWARD EFFECTS OF.

As taught by McFarland, tetanus is not a frequent complication of vaccination, a total of 95 cases having been collected. The number of cases recently observed is out of all proportion to what has been observed heretofore. The cases are chiefly American, and occur scattered throughout the eastern United States and Canada. They have nothing to do with atmospheric, telluric, or seasonal conditions. They occur in small numbers after the use of various viruses. An overwhelming proportion has occurred after the use of a particular virus. The tetanus organism may be present in the virus in small numbers, being derived from the manure and hay. Occasionally the number of bacilli becomes greater than usual through carelessness or accident. The future avoidance of the complication is to be sought for in greater care in the preparation of the vaccine-virus. The writer himself contends that vaccination should be carefully done with aseptic precautions; that the after-treatment of the site of the scarification is very important in preventing cellulitis, erysipelas, and tetanus; that vaccination, when carefully done with properly prepared lymph, is a harmless procedure. J. H. McCollom (*Boston Medical and Surgical Journal*, August 21, 1902).

VACCINE, ANIMAL, PREPARATION OF.

There are three available sources of vaccine: The virus descended from spontaneous cow-pox and continued through an indefinite series of animals: the true animal vaccine. Virus obtained from animals which have been inoculated with lymph from human vaccine pustules, either directly or in-

directly, through a series of calves. This is known as retrovaccine. Vaccine obtained by passing small-pox through the cow: the so-called variola vaccine. In concluding his article the writer says that the vaccine is but one of three factors which determine the success or failure of vaccination. The others are a satisfactory inoculation technique and the proper care of the wound afterward. Theobald Smith (Boston Medical and Surgical Journal, August 21, 1902).

X-RAYS.

Case of facial carcinoma and epithelioma and one of lupus benefited by the use of x-rays. They relieve pain and disagreeable discharge, and, in spite of the disadvantages of time and great care required to carry out the treatment and the cost of apparatus, these are many times overbalanced by the results. E. D. Bondurant (New York Medical Journal, August 2, 1902).

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

DISEASES OF THE RECTUM AND ANUS. Designed for Students and Practitioners of Medicine. By Samuel Goodwin Gant, M.D., LL.D., Professor of Rectal and Anal Surgery at the New York Post-graduate Medical School and Hospital; Formerly Professor of Gastro-intestinal Surgery at the University and Woman's Medical Colleges, Kansas City, Mo.; Attending Surgeon for Rectal and Anal Diseases to the New York Post-graduate Hospital, St. Mark's Hospital, Hebrew Sheltering Guardian Orphan Asylum, and New York Infant Asylum; Member of the American Proctologic Society, American Medical Association, Mississippi Valley Medical Association, and New York Post-graduate Hospital Alumni Association, New York Academy of Medicine, County and Greater New York Medical Societies, and Honorary Member of the Missouri, Kansas, and Nebraska State Medical Associations, Kansas City Academy of Medicine, etc. Second Edition, Rewritten and Enlarged with 37 Full-Page Plates, 20 of Which are in Colors, and 212 Smaller Engravings and Half-tones. Pages, xxiv-687. Royal Octavo. Extra Cloth, \$5.00, net; Sheep or Half-russia, \$6.00, net, Delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

La Scolliose. Théorie complète. Nouveau Traitement. By Eugène Perdu, Paris. 1902.—**Puerperal Fevers: From a Surgeon's Standpoint.** By Emory Lanphear, St. Louis, Mo. 1902.—**Annual Report of the Essex County Hospitals for the Insane, Newark, N. J., for the Year Ending April 30, 1902.**—**The Treatment of Forty-three Cases of Typhoid Fever with no Deaths, and with Complications in but One Case.** By Edward C. Seufert, Chicago, Ill. 1899.—**The Methods of the Conveyance of Yellow-Fever Infection.** By Surgeon H. R. Carter. Yellow-Fever Institute, Bulletin No. 10. 1902.—**Are Vessels Infected with Yellow Fever? Some Personal Observations.** By Surgeon H. R. Carter. Yellow-Fever Institute, Bulletin No. 9. 1902.—**Sources of the Agricultural Imports of the United States, 1897-1901.** By Frank H. Hitchcock. United States Department of Agriculture, Washington, D. C. 1902.—**Manufacture of Semolina and Macaroni.** By Robert P. Skinner, Consul-General at Marseilles. United States Department of Agriculture. 1902.—**Proceedings of the Third Annual Good-Roads Convention of the Board of Supervisors of the State of New York, held at Albany, N. Y., January 28 and 29, 1902.**—**Agricultural Imports of the United Kingdom, 1896-1900.** By Frank H. Hitchcock. United States Department of Agriculture. 1902.—**Distribution of the Agricultural Exports of the United States, 1897-1901.** By Frank H. Hitchcock. United States Department of Agriculture. 1902.—**Game-laws for 1902. A Summary of the Provisions Relating to Seasons, Shipment, Sale, and Licenses.** By T. S. Palmer and H. W. Olds. United States Department of Agriculture. 1902.—**Report on Observations made upon the Cattle at the Experimental Station at Outremont, P. Q., Recognized to be Tuberculosis by the Tuberculin Test.** By J. George Adami and C. F. Martin. 1899.—**Report of the Minister of Agriculture for the Dominion of Canada for the Year Ended October 31, 1901.**—**How to Build Small Irrigation Ditches.** By C. T. Johnston and J. D. Standard. United States Department of Agriculture. 1902.—**The Propagation of Plants.** By L. C. Corbett. United States Department of Agriculture. 1902.

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Cyclopædia of Current literature.

ANÆSTHETIC FOR SHORT OPERATIONS UPON THE NOSE AND THROAT.

The writer deprecates the use of chloroform as an anæsthetic in short operations upon the throat and nose,

and refers to fifty recent cases in which death occurred in these otherwise simple operations. Even in the hands of an experienced anæsthetist chloroform in these cases is extremely dangerous. For infants less than 12 months old ether

should be employed on an open mask; children from 1 to 4 years of age do not take nitrous oxide well, especially if there is any obstruction of the respiratory tract. Ether in these cases is usually taken without trouble. From 4 to 12 years of age nitrous oxide is generally satisfactory. This agent is also usually satisfactory in adolescents and adults. Gas and ether are rather to be preferred to gas and oxygen. Chloride of ethyl the author has employed in eighty cases, but considers it less trustworthy and more tedious to administer than ether. J. Henry Chaldecott (Lancet, September 13, 1902).

APPENDICITIS, TENDERNESS AND.

One of the most significant symptoms of inflammation of the appendix, as distinguished from other pathological conditions that may develop in the right iliac fossa, is undoubtedly the tenderness over McBurney's point. Too often it is assumed by the practitioner that there must be spontaneous pain in the right iliac fossa whenever acute appendicitis develops. It is perfectly possible, however, for an active inflammation of the appendix to be dangerously progressive without the slightest pain in this region, or with only some passing discomfort on movement. Yet a touch over the point midway between the anterior superior spine and the umbilicus may reveal the existence of exquisite tenderness. This is the significant value of the diagnostic symptom discovered by the New York surgeon, and the real reason why McBurney's point has attracted the attention of the medical world.

This point of tenderness is practically invariably present when an appendiceal inflammation is active. Just what the reason for its exact localization may be

is not very clear. For a time in the early history of appendicitis it was thought to be associated with the almost constant presence in this neighborhood of the tip of the inflamed appendix. On operation it was found, however, that the appendix might lie in many positions that would bring its tip into locations quite distant from this point yet the characteristic tenderness nevertheless be present. Other explanations have proved as futile. The tenderness is not immediately over the origin of the appendix from the cæcum, though this has been suggested. Its location corresponds rather with the inner edge of the cæcum than its middle line whence the appendix comes off. The tenderness is not due to the localized inflammation at a stricture of the appendix, for the situation of such a lesion varies, not only on the appendix itself, but also with the differing positions of that organ. French surgeons, as Jalaguier and Quénu, have insisted that the tenderness at McBurney's point is really due to lymphatic adenitis at the ileo-cæcal angle. This seems to be the only explanation that will satisfactorily account for the absolute fixity of the area of tenderness, notwithstanding the variability of the situation of the appendix and also of its pathological condition.

Quénu at a meeting of the French Society of Surgery pointed out that in gangrenous appendicitis the spread of the tenderness along the ileum toward the left iliac fossa is often a very valuable index of the gravity of the intra-abdominal situation. As this is the form of appendicitis which gives rise to most misgivings and oftenest deceives the surgeon into what proves, unfortunately, inaction, it is specially important that the diagnostic value of the

suggestion should be carefully investigated. Quénu's rule is to operate whenever there is diffusion of tenderness toward the middle line, even though the general condition of the patient should not seem grave and there should be no change in other symptoms indicative of serious danger. He cites recent cases in which he feels sure that the consistent application of this rule has proved life-saving.

At the April meeting of the Harvard Medical Society of New York City Dr. John B. Walker called attention to the significance of a certain evolution of symptoms in gangrenous appendicitis that is evidently dependent on the same conditions as those described by the French surgeon just quoted. Dr. Walker considers that the development of tenderness across the abdomen indicates a dangerous culmination in the inflammatory condition around the appendix. If at a first examination there is no tenderness in the left iliac region, while on subsequent examination palpation shows it to be present, immediate operation is indicated, even though the pulse and temperature should not be alarming and even have remained unchanged despite the evident progress of the affection. This symptom has, in his experience, been especially valuable in just those cases of insidious gangrenous appendicitis in which the surgeon is so often at a loss what to do and looks anxiously for some sign that will aid him in his determination. In some of his cases where surgical delay seemed perfectly justifiable on every other ground, operation performed on this indication alone disclosed the presence of an exquisitely gangrenous appendix just ready to rupture under circumstances that would surely have proved fatal, since no inflammatory reaction

had as yet walled off the general peritoneal cavity. It would seem, then, that this more exact study of the character, localization, and evolution of abdominal tenderness in appendicitis may prove of very valuable diagnostic significance in this most trying problem in present-day medicine. Editorial (*Journal of the American Medical Association*, August 16, 1902).

APPENDIX, NEW USE FOR THE.

The author discusses the advisability of making an artificial anus at the cæcum, or in the upper portion of the colon, in those persistent and intractable cases of colitis which frequently prove fatal under medical treatment. He has performed one operation of this kind in which he made a Kader-Gibson fistula, by placing a medium-sized catheter in a small opening in the cæcum and applying two or three rows of purse-string sutures, so as to invert the adjacent peritoneal coat. When he was about to do another case the appendix presented itself so easily that he at once made use of it in his operation. He inserted the tip of the appendix into the wound and then, opening the end, ran a small catheter through its lumen into the cæcum. If one were sure that it was patent, it would be unnecessary to open the appendix till adhesions had formed. Irrigations were subsequently carried on through this organ, and the case made a good recovery. The danger of shock and peritonitis is very much lessened by this means, and the subsequent treatment in closing or removing the appendix is comparatively simple and entails very little danger. R. F. Weir (*Medical Record*, August 9, 1902).

BACTERIOLOGICAL DIAGNOSIS.

After making some 27,000 cultures, of which he has tabulated nearly 25,000

from over 12,000 patients, the writer reaches the conclusion that the value of bacteriological examination, with all its limitations, is, as a rule, underestimated rather than overestimated. Of course, bacteriology is only an aid to diagnosis, and sometimes too much is expected of it, and frequently there is no explanation accompanying the specimen requiring to be examined, and, because one is unwilling to give an opinion under such circumstances, bacteriological methods are denounced. He notices the occurrence of diphtheria bacilli in the throats of healthy persons, and remarks that a single examination is not sufficient in this disease. One would naturally expect to find the mixed infection giving the highest percentage of mortality; but he found that, as the typical long form was departed from, the mortality decreases. In cases in which the practically pure cultivations of the typical long bacillus are obtained the mortality is 21.4 per cent.; when the long form is mixed up with the short bacilli, the mortality falls to 20.1 per cent.; when with short and irregular forms only, to 18.6 per cent.; and when with irregular forms only, to 14.6 per cent. He has found, also, that the streptococcus complicating diphtheria infection does not increase the mortality as much as the staphylococcus as the complicating organism, which was by far the most fatal. He also discusses the relation of diphtheria and scarlet fever, and finds many cases reported as the latter undoubtedly diphtheria. It is also true that in a large number of cases reported as diphtheria no diphtheria bacilli can be found, and they are not cases of diphtheria at all. In scarlet fever uncomplicated with diphtheria or streptococci, therefore, not treated with antitoxin, there was a somewhat high mor-

talidity. Bacteriological studies show that the needed period of isolation after diphtheria is much longer than was at one time thought, and the majority of the writer's cases seemed to retain the bacilli in their throats from two to nine weeks after apparent convalescence. G. Sims Woodhead (*British Medical Journal*, September 27, 1902).

CANCER, THE ALLEGED INCREASE IN.

We have been hearing much, of late, of the increase of cancer, as shown by statistics in various parts of the world. With the renewed interest which recent studies in etiology have given the general subject, the statisticians have been busy proving that cancer never was so prevalent as now, and that its alarming increase demands immediate and thorough-going investigation. The picture is sufficiently gloomy at best, but it is a positive relief to turn from these statistics to others, equally carefully prepared, which go to show that the whole matter has been exaggerated and that many of these statistics accompanying the present interest in cancer research prove too much, as statistics, even in conscientious hands, are apt to do.

Prof. R. de Bovis, of the Reims School of Medicine, has recently sent a communication on the subject of cancer statistics to *La Semaine Médicale*, which has been, in part, republished and editorially commented on in the *British Medical Journal* for October 4th. Professor de Bovis maintains that the statistics of the last twenty years alone are of value, and that the most trustworthy are those coming from England, Norway, and Prussia. In discussing the recent alleged increase of the disease,

it is pointed out that earlier statistics were notoriously incomplete, and that diagnosis, especially with the advent of bolder surgical measures, has markedly increased in accuracy. This would be particularly true of the recognition of malignant disease of internal organs, which formerly often went unnoticed. A classification of cancer of different parts of the body, as first carried out by King and Newsholme, has also done much toward bringing about increased statistical accuracy. Quoting the statistics of various countries, the following conclusions are drawn: Cancer of the rectum appears to be at least stationary; uterine cancer shows a sensible decline; cancer of the breast shows a still more marked decline; cancer of the mouth and its annexes are perhaps increasing; cancers of the extremities have diminished; the increase of cancer is consequently, above all, due to the increase in deaths from visceral cancer.

This analysis seems to show that external cancer is stationary and that visceral cancer appears to be increasing in frequency, but an investigation of all the facts leads to the assumption that this increase, as shown by statistics, is much greater than the reality. A careful study of the supposed excessive incidence of cancer in urban communities indicates that here, again, the facts show a slightly greater proportion of cases in towns than in country districts, but by no means in the proportion usually supposed. Again, the supposed increase of cancer in males is thought to be due to the frequent greater inaccessibility of the growth in men than in women, hence an apparent, rather than a real, increase. The final conclusion from the whole investigation is that a careful study of statistics contradicts more than it confirms the supposed

alarming increase of cancerous affections.

Such a conclusion from a man of recognized authority should carry weight, and do something toward removing the sense of alarm into which recent researches have brought us. A dispassionate study of statistics as such, which the present work appears to be, should be of much value toward controlling the work of the special and often overenthusiastic statistical student. Editorial (Boston Medical and Surgical Journal, October 16, 1902).

CHOLERA ASIATICA.

Cholera assumes an epidemic form of grave dimensions in Canton now and then. Small outbreaks have occurred since the great epidemic of 1894. During this year that country suffered from prolonged drought and intense heat. A comparison of the clinical course of cholera and the effects of the treatment has shown that the onset in every case was sudden, particularly in the earlier cases, when the disease was most virulent, vomiting and diarrhoea being early signs. Delay in the treatment of this stage meant certain death, and the writer states that he has not seen one patient recover when treatment was delayed,—that is, during the early weeks of the epidemic,—while toward the end of the epidemic the virulence of the disease decreased, and spontaneous recovery sometimes took place. The earlier the onset of cramps, the worse the prognosis, and experience shows that the patient does not recover when cramps are a well-marked condition. W. J. Webb Anderson (Lancet, September 27, 1902).

COCAINE HABIT IN INDIA.

Cocaine, which has but recently been introduced in India, is generally taken

in the form of powders sprinkled on a paste of slaked lime, which is buttered on a betel-leaf. The mass is rolled up and chewed for about fifteen minutes. The first symptom of the so-called hilarity is a heaviness of the head. Then quickly follow a wild throbbing of the arteries of the neck and palpitation of the heart. The pulse never exceeds 110. The inebriate wishes to be left alone; he will not speak lest saliva escape from the mouth. The ears become hot, the cheeks pale, and the nose pinched and cold. The height of intoxication is marked by coldness of the finger-tips and dilatation of the pupils. This last stage lasts from thirty to forty-five minutes, when the victim longs for a fresh dose. The teeth and tongue of old *habitués* turn absolutely black. The craving for an increased dose is pronounced. In one case it was so marked as to cause a jump from 1 to 20 grains in a month. The worst sequelæ are very obstinate forms of diarrhœa and dyspepsia. Of the mental derangements, hallucinations and delusions causing dejection and fear are common. A more miserable object than a confirmed Hindoo cocaine-eater cannot be pictured. The drug is altogether more disastrous in its effects than is opium or any other narcotic used in India. To quote the words of a victim, "To eat cocaine is to court misery." Kailas Chunder Bose (British Medical Journal, April 26, 1902).

CONVULSIONS, INFANTILE.

This was the subject of a discussion at the last French Congress of Medicine, when Moussous and d'Espine (Journal de Médecine et de Chirurgie Pratiques, June 10, 1902) drew attention to some important points. One is in reference to the identity of infantile

convulsions and epilepsy, as originally suggested by Féré: the relatively considerable proportion of epileptics whose seizures began before the age of 5 years. Berger is quoted as finding 20 per cent. of epileptics whose fits began in infancy. According to Gowers, a large number (12.5 per cent.) of epileptic cases began in the first three years of life, while Osler gives a still higher proportion, namely: 180 out of 480 cases. D'Espine points out conversely that a large number of children who suffer from convulsions subsequently become epileptic; and Coutts is quoted as finding 11 out of 85 cases of children having suffered from convulsions becoming epileptic, 29 cases showing other neuroses, the remaining 45 being unaffected. Dufour has also quoted statistics in support of this hypothesis, and finds that, of 66 cases of infantile convulsions, 15 developed ordinary epilepsy. Bullard and Townsend have ascertained the presence of other nervous phenomena in 9 out of 19 cases of children aged from 5 to 12 having had convulsions, the further developments being night-terrors, insomnia, and enuresis; and, in another series of 30 cases due to the same source, 6 were mentally deficient or epileptic. Their conclusion is that all children suffering from infantile convulsions are predisposed to various nervous affections. H. Gillet found that 3 children out of 23 cases of infantile convulsions became epileptic and 1 hysterical; 17 of these 23 cases had a neuropathic family history. On the other hand, d'Espine quotes from an examination of his own statistics that infantile convulsions are the expression of a temporary neurotic tendency, and should, therefore, be completely separated from cases of true epilepsy, the latter disease being, ac-

cording to this authority, much less common than infantile convulsions or eclampsia—a disease often proving fatal, but which is at the same time capable of being completely cured without leaving any untoward impression on the nervous system. Moussous holds much the same opinion from a different point of view. If, he says, a large number of epileptics have suffered from infantile convulsions, it must not be forgotten that a great number of persons have also had infantile convulsions without having become epileptic. In favor of this is the undoubted fact that epilepsy is a most inveterate condition, and it seems strange, admitting the identity of the two diseases, that when it begins in childhood, in other words in a precocious form, it shows the greatest tendency to disappear. Moreover, it is not in cases of epilepsy alone that an inquiry into the past history of the patient brings to light a tendency to infantile convulsions, for, granting that many cases of epilepsy have a past history of convulsions in childhood, the same may be said of patients suffering from chorea, tic, neurasthenia, and want of mental balance. Everything seems to depend upon the hereditary tendencies of the patient. Moussous insists on the connection existing between strabismus and convulsions. For a long time infantile convulsions have been regarded as a cause of strabismus, especially in the convergent hypermetropic form. This view is not held by some authorities: Cabanes, for instance. It is probable that the immediate cause of brain disturbance resulting in convulsions is in itself sufficient to upset those delicate co-ordinating movements connected with the visual axes, and thus strabismus becomes itself a manifestation rather than an effect of the seizure;

that is to say, convulsions and strabismus being due to a common cause, namely: a neuropathic heredity. Out of 62 cases of strabismus recorded in the Children's Hospital in Bordeaux, Ginestoux ascertained the existence of convulsions in three-fourths. In cases of divergent strabismus convulsions have been less frequently noticed than in the form already mentioned. The absolute frequency of infantile convulsions has been differently estimated, and from a large number of observations d'Espine makes the somewhat surprising statement that infantile convulsions occur less frequently than is supposed. Excluding symptomatic cases, spasmodic conditions may be divided into three groups: eclampsia, spasm of the glottis, and tetany. The figures of d'Espine refer to 208,035 children. Of these, 1274 suffered from ordinary convulsions (eclampsia), thus giving 0.61 per cent.; 693, or 0.33 per cent., suffered from laryngeal spasm; 141, or 0.06 per cent., had tetany. (British Medical Journal, October 4, 1902.)

DIABETES, TREATMENT OF.

The proper dieting is of the greatest importance in the treatment of diabetes. Drugs have practically no influence on the process. The benefit derived from a stay at some watering-place is ascribed to the diet, which consists exclusively of fat and proteid. In saccharin we possess an excellent substitute for sugar, and one which can be taken for years with impunity. Notwithstanding the many preparations on the market, the proper substitutes for bread have not yet been found, for those which have been tried either become disagreeable to the taste after awhile or they are too rich in carbohydrates. If the con-

dition permits the use of any bread at all, Graham bread is to be preferred. One should never forget that the diabetic needs more actual food than the well, since he loses so much, and underfeeding should be avoided. As with morphine, it is generally better and more agreeable for the patient to withdraw the forbidden articles of food slowly than rapidly. The scales should be used freely to watch the body-weight. If the urine has been free from sugar for several weeks small quantities—say, 25 grammes—of bread daily are permitted, and the amount is increased daily 10 grammes till 70 to 100 are reached, which is sufficient for most. As soon as traces of sugar again appear the bread must be reduced in some, and in others entirely withdrawn. H. Eichhorst (*Therapeutische Monatshefte*, September, 1902).

DILATATION OF THE STOMACH.

The writer gives his own interpretation of the clinical value and treatment of atonic dilatation of the stomach. In the discussion of this subject these remarks will be confined to personal experience and observation, although he says "they may differ considerably from much that is written on the subject."

Atonic dilatation of the stomach may be defined as a distension of that organ from lack of elasticity or muscular tone, and should be distinguished from acute dilatation, on the one hand, and dilatation from pyloric obstruction, on the other. Much help in the diagnosis of this condition may be derived from a careful study of the case history, in addition to the physical methods used. Both of the latter varieties of dilatation are more serious, may be very extensive, producing more displacement

of the greater curve, and are most unyielding to treatment. Not every slight distension with gas should be dignified by the title of dilatation of the stomach, but that title should be applied to such enlargement of the gastric area as would make the line of the greater curve as low as or lower than a point about three inches above the umbilicus; the variations above that point may be considered normal.

Atonic dilatation, or *myasthenia gastrica*, is usually met with as a sign or symptom of nervous exhaustion or nervous dyspepsia. It may be or may not be attended with serious disturbance of the gastric secretion, for in many cases practically normal secretion is found, and in such cases the main distress seems caused by the slow or imperfect emptying of the viscus, with the nervous disturbances due to the general sagging of internal organs, of which the stomach is an important member.

It is a single item in a symptom-complex which usually includes a general enteroptosis. It is much more frequent in women than men, and is often associated with prolapse of the uterus and movable kidney.

Hence it is difficult to say which, if any, of the different organs relaxed and displaced is most to blame for the nervous symptoms and distresses of the patient, or whether the nervous and muscular weakness present in this class of cases is not primary and really responsible for the stomach symptoms.

Certain it is that no one of the conditions recovers alone, and the surgical replacement of kidneys and even stomach has been recommended, but surgery cannot cure or remove the cause or restore tone to the supporting structures. He contends that excessive mental occupation, including mental anxiety and

worry, with deficient physical exercise and the wearing of garments which do not allow free play of the trunk-muscles, are, in a majority of cases, the fundamental errors which underlie the condition.

In this connection, also, rapid and injudicious eating and gorging the stomach should not be lost sight of as possible causes. This latter cause will be found to account for a dilatation frequently met with in bottle-fed infants and young children; but here the condition, unless extreme, seldom attracts attention, and usually rights itself when the child grows older and learns to masticate its food.

Imperfect recovery of tone after confinement is mentioned as among the causes, yet the condition is quite common in men and in unmarried women, especially stenographers, book-keepers, and others whose in-door and sedentary occupations may be partly at fault.

Occasional outlines will serve as an index of the patient's progress toward recovery, and the knowledge that the stomach has receded two or three inches toward the normal dimensions may be most encouraging and inspiring to the patient, a boon to be desired, as the associated conditions are frequently very depressing.

In regard to treatment, he believes that the dilated stomach, when found, often fills the eye and mind of the physician to the practical exclusion of the other and equally important conditions, and even of the underlying causes, and the dilatation is treated as if it were the disorder instead of one of the symptoms; while, on the contrary, many dilated stomachs, with all the accompanying displacement and distress, are overlooked for lack of investigation, the patient being turned off with a tonic or

some pepsin and a few vague directions as to diet.

The treatment should be based on a knowledge of the cause or causes of the condition, and aimed at their removal or correction; and any amount of tonics or digestives will only palliate, perhaps not even that, if the causes are overlooked.

A general inventory of the patient's physical capital should be taken, and it will frequently be found about as follows: A feeling of weight or fullness in the region of the stomach; gas; distress, not to say pain; appetite variable and irregular; often great fear of taking even wholesome food on account of expected distress; a muddy complexion; tongue more or less coated, often flabby and indented with the teeth, possibly surmounted by inflamed or congested papillæ; constipation, and frequently associated intestinal indigestion, a tendency to scantiness and high color of the urine; restlessness at night, especially toward the early morning hours.

Examination of the general nervous and muscular conditions will show reflexes normal, but a flabbiness of texture in the muscles and skin, especially over the abdomen, and there may or may not be a fat and pendulous abdomen.

Careful examination will show, not only an enlarged gastric area, but often a loose kidney, displaced transverse colon, and, in women, frequently a prolapsed uterus. Analysis of stomach-contents is not necessary or expedient in most of these cases if other methods of investigation are used carefully, but, when resorted to, the gastric secretions will usually be found normal.

Having taken such an account of the physical conditions, certain indications for treatment are plain. The treatment

may be divided into hygienic and medicinal. Under the head of *hygienic* would come the correction of the patient's habits of dress, so as to give the abdominal muscles a chance to do the work they were intended to do, viz.: to support the abdominal viscera; the institution of such habits of out-door exercise as would give the patient, if pos-

faradic electricity over the stomach and abdomen when the symptoms are principally local, to which may be added spinal galvanization if general neurasthenic symptoms are at all prominent.

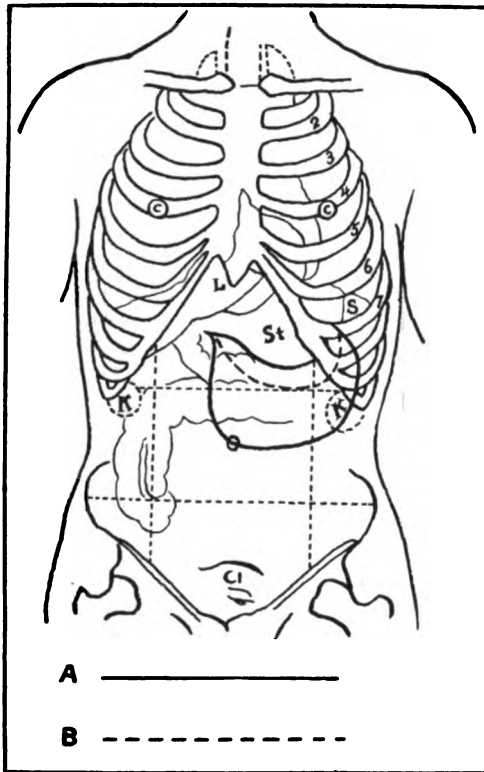
Much difference of opinion exists regarding diet, some stomach specialists prescribing a very concentrated, often a meat, diet, and little water or other fluid, with the idea that if the stomach is not filled its wall will contract to fit its contents.

Others, and with better logic, feed the patient with reference to what the body requires, believing such a course should be good for a stomach not organically diseased. Hence, the writer orders such a diet as the patient can digest, including the free use of water and milk if the patient requires more flesh, and frequent feeding, every two hours or two hours and a half, if it seems best in any individual case. Occupation for the stomach increases its strength, and disuse, he argues, often engenders trouble from gas, etc., when empty or nearly so. The diet may be changed as digestive strength increases.

The medicines useful in this class of cases are such as are of benefit to the general nervous condition; and first among them is *nux vomica*, or strychnine, to which may be added rhubarb if a constipated tendency exists; *betanaphthol* and *bismuth subgallate*, if gas or intestinal fermentation is a prominent symptom; and, in lithæmic subjects, *sodium salicylate*, given in a copious draught of water between meals, will often be of great advantage.

He contends that it is method, not medicine, which should be relied upon in these cases.

A few diagrams representing some current work of the sort are presented as illustrative of the subject.



Case I.—A, April 5, 1900; B, May 19, 1900.

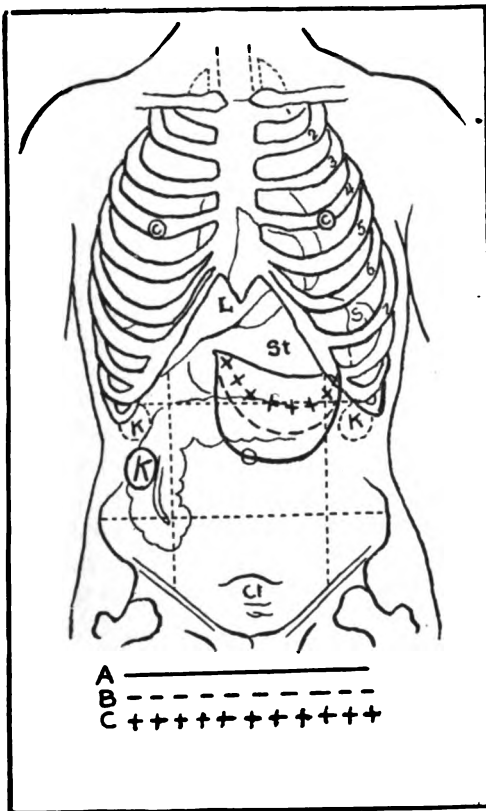
(New York Medical Journal, October 18, 1902.)

sible, not less than two hours in the open air each day; a cool or cold morning sponge-bath, usually general, at all events local over the abdomen, followed by a prescribed amount and variety of calisthenics, suited to the patient's need and strength, and calculated especially to strengthen the abdominal walls;

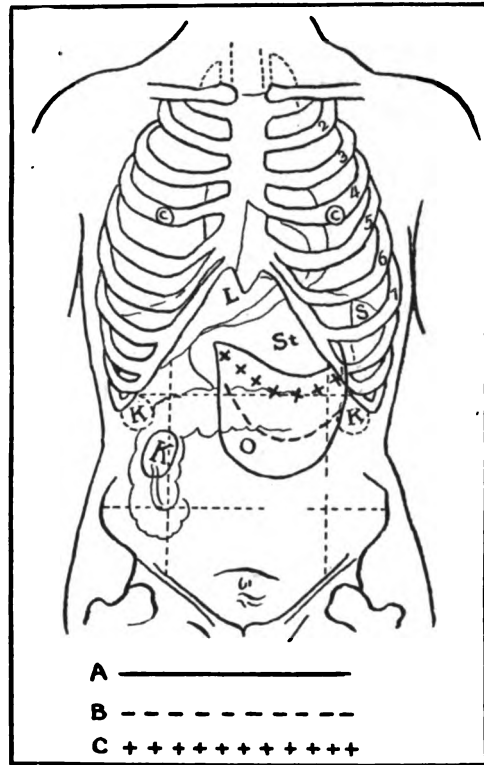
Case I.—Mr. A. B., bank-teller, 50 years old, seen first April 5, 1900, was a chronic nervous dyspeptic, who had followed a concentrated, mainly meat diet, for a year and a half before first diagram was made. He kept on with his work while under treatment, and the second marking on the chart shows

stomach, while there was a general improvement in the position of all her internal organs, and at the present time her health is much in advance of what was her habit before the chart was made.

Case III.—Mrs. W. N., 32 years old, mother of one child, was a chronic neu-



Case II.—A, April 28, 1900; B, May 11, 1900; C, June 4, 1900.



Case III.—A, November 30, 1900; B, December 18, 1900; C, March 2, 1901.

(New York Medical Journal, October 18, 1902.)

his improvement. He has remained well to the present time.

Case II.—Mrs. F. G., 32 years old, chronic neurasthenic, with nephroptosis and prolapse of uterus. Under treatment she gained flesh and strength, and the successive markings on the chart indicate the improved condition of her

stomach. She also had a floating kidney and prolapsed uterus. The successive markings on the chart show her improvement so far as it is reflected by the condition of her stomach. She has remained well to the present time. B. C. Loveland (New York Medical Journal, October 18, 1902).

DIPHTHERIA ANTITOXIN, VALUE OF.

The writer's experience before the advent of antitoxin was about as that of other practitioners. He had no specific; he was forced to rely upon keeping the affected region as clean and as nearly aseptic as possible, upon the use of tincture of chloride of iron, upon the use of tonics for the heart, stimulants, and nourishment. If, happily, the child was robust and the dose of poison received into the system not overwhelming, the child recovered. If, on the other hand, the dose of the poison was great or the resistance feeble, death ensued.

If laryngitis was the first symptom or a complication, death almost invariably ensued. Tracheotomy in croup cases, whether performed by himself or by expert surgeons, was invariably followed by death in his private work.

Intubation occasionally, but very seldom, was followed by recovery.

He felt at the time and still thinks that he occasionally saved life by the timely use of local applications, the use of food and stimulants, or by surgical interference. He always felt, however, the greatest trepidation in dealing with diphtheria, and knew that his patient was in the hands of a merciless enemy.

The uncertainty of treatment ten years ago is well illustrated by two typical cases:—

Case I.—Marion H. developed gradually a hoarseness. He saw her on the second day. There was a very slight rise of temperature, there was total loss of voice, and over both tonsils there were small patches of tightly adherent membrane. There was no difficult breathing. The case was recognized as one of diphtheritic croup and treated with atomized lime, local applications

to the tonsils and pharynx, and tonics. Gradually the voice became whispering, and stenosis of the larynx ensued and gradually increased. Before the child was *in extremis*, Dr. Wharton skillfully performed tracheotomy, with relief for a few hours, then the bronchi became affected, and the girl of ten years died miserably—of suffocation.

The above case was seen early, treated in the best-known manner, a surgeon called in early, and yet the disease steadily pursued its relentless course until death ensued. This was the writer's usual experience in such cases.

Case II.—O. M., boy of 6. One of moderate pharyngeal diphtheria, treated with iron, local applications, and tonics. The membrane all disappeared, but a gradually increasing nephritis occurred, which ended in death from that complication.

Of course, there were severe cases which recovered, but the occurrence of such cases as the above made the writer feel that the doctor had absolutely no specific and that death or recovery depended largely upon the dose of poison and the amount of resistance manifested by the patient.

Now all this is changed.

Since the author has been using antitoxin he has had *one* death in which the specific was used, and that death occurred eight hours after his first visit (the child had been ill two days) and seven hours after the administration of the antitoxin.

The writer now feels, when called to a case of diphtheria, that the patient will *surely* recover, provided he is seen early in the course; and will *probably* recover, even though the case is severe and seen rather late. Every patient suffering from laryngitis seen has recovered. On two or three occasions intu-

bation has been resorted to, but never tracheotomy. The mild cases all recover with the administration of 1000 or, preferably, 2000 units of a reputable make of antitoxin.

That no mistake, in the writer's judgment, as to the nature of the cases has occurred is proven by the fact that he invariably makes cultures in every throat case, so that he has not given antitoxin the credit of curing cases of follicular tonsillitis, which would have recovered without its use.

The cases which were treated with antitoxin and were recorded as diphtheria were all true diphtheria, as proven by the presence of Klebs-Löffler bacilli in the throat.

The following cases are illustrative of what occurs in the constant early use of antitoxin, and are the grounds for the writer's belief in the remedy:—

Case I.—Milton F., the writer's son, aged 8 years, was not feeling very well for two or three days. A careful examination of his throat and other organs failed to show anything upon which a diagnosis could be made. On the morning of November 26, 1901, his mother sent him to the office to have his throat examined, as he said it was sore. There was no fever, and, apart from a slight pharyngeal redness, his throat was normal. Suddenly, at 3 A.M. on the next day, the author was awakened by the child giving a severe, loud, laryngeal cough. He spoke to him and his voice was perfectly clear. Examination of the throat showed both tonsils covered with a thick, membranous exudate. By 4 A.M. the child could not speak above a whisper, and the visible exudate had decidedly increased. At 4.30 A.M. he received 4000 units of antitoxin at one dose. He received some strychnine as a tonic and a mixture of tr. ferri chlor.

and bichloride, internally. He was isolated. A culture showed a pure growth of Klebs-Löffler bacilli. He made a perfect recovery.

So far as we may speak of what is not absolutely proven, this patient would have died miserably within twenty-four hours. Many such cases have come under personal observation in which death was the immediate result before the use of diphtheria antitoxin. The case shows, also, the value of *early* administration of relatively large doses.

The following case, seen in consultation, demonstrates two facts: The error in giving one dose of antitoxin and not repeating it one or more times if improvement does not follow, and the value of antitoxin late in the course of a case.

Case II.—Child, female, aged 3 years, seen with Dr. Rowe, of Falls of Schuylkill. Five days before the writer was called the child had been attacked with pharyngeal diphtheria, was given 1000 units of antitoxin, and improved so that some of the membrane disappeared from the throat. The writer saw her late in the evening of the sixth or seventh day, almost *in extremis* from laryngeal stenosis. There was considerable exudate in the throat, there was apparently some consolidation at the right apex of the lung, indicating that at least collapse had taken place, if not actual inflammation. The child was at once given 2000 units of antitoxin, and Dr. John H. Jopson was called to do a tracheotomy. He chose an intubation, which he did most skillfully. The child was immediately relieved of the symptoms of stenosis, but the breathing still remained rapid, and there was continued retraction of the epigastrium. The next morning 2000 units more of antitoxin were administered. From that

time the child gradually improved, and at the end of two weeks was entirely well.

The child would have died if intubation had not been performed, and would have died even with that help if the administration of antitoxin had not been continued. A pure culture of diphtheria bacilli was found in the throat.

The effect upon a severe case, when the remedy is given early and in efficient doses, is shown by a case which came under personal care the day the writer left the city on his vacation. The case was continued under the intelligent care of Dr. C. K. Dengler.

Case III.—John C., aged 12 years, was taken sick with sore throat, August 17, 1902. The writer first saw him in the evening of August 19th. He had a temperature of 103° F. The entire pharynx was coated with a thick, dirty membrane. The glands at the angle of the jaw were much involved and greatly swollen. The voice was clear. He was immediately given 2000 units of antitoxin at 11 P.M. The next morning, at 10 o'clock, as the symptoms were about the same, he was again given 2000 units. In the evening he was better, but the voice was husky. By 10 P.M. he had severe laryngeal stenosis, was given 2000 units more of antitoxin, and the membrane in the pharynx was beginning to disappear. In a few hours a large piece of membrane was coughed up and the stenosis entirely disappeared. The child made an uninterrupted recovery. Two children in this home had a slight attack of diphtheria, which was cut short by the immediate administration of 1000 units of antitoxin. A fourth child was given an immunizing dose of 500 units and did not develop the disease.

While the writer makes it a rule to take a culture of all throat cases, he does not wait for the result of the culture before administering antitoxin in doubtful cases. He has frequently given a dose of antitoxin when the culture showed afterward that diphtheria was not present. There was absolutely no unpleasant effects.

Case IV.—George F. was taken ill with temperature of 104° F., sore throat, and general malaise, while his brother was ill in the house with true diphtheria. Antitoxin, 2000 units, was immediately administered without any effect, good or bad, upon the case. Repeated cultures showed the absence of diphtheria bacilli.

Basing his practice upon personal experience and being taught by the experience of others, the writer believes that it is a proper thing to administer an immunizing dose to the children of a family in which a case of diphtheria exists. He had thought that, having at hand such a certain specific in antitoxin, we could safely await the development of the disease before administering the antitoxin, but Jump's experience of a fatal case developing in a child watched, but not given an immunizing dose, shows the danger of such a course. He now always administers 500 units to the unaffected children of the family.

The writer submits the following rules, which, if followed, will reduce, he believes, the mortality of diphtheria to about *nil*, instead of 30 per cent. or thereabouts, as it is apparently in Philadelphia at the present time:—

Rules.—1. Always make a culture in throat cases; diphtheria cannot be certainly diagnosed without it.

2. When called to see a case of sore throat which is doubtful in character,

give antitoxin *at once* and make the diagnosis by culture afterward.

3. When a case of undoubted diphtheria is seen, administer 2000 units *at once*. If there is no improvement in six hours, administer 2000 units again. Every twelve hours thereafter administer 2000 units until improvement begins.

4. Always give a large dose; 2000 to 4000 units in the writer's hands has proven sufficient, but in desperate cases much larger doses may be used, as proven by the Boston experience.

Given a case of diphtheria in an early stage; it is only a matter of administration of *enough* antitoxin to effect its cure.

If one *waits*, even in apparently mild cases, fatal pathological changes may occur in the organs which will make death or invalidism certain, even though antitoxin be administered later. M. Howard Fussell (Philadelphia Medical Journal, October 25, 1902).

EPILEPSY, CALCIUM IN.

Having noted in numerous epileptic cases deficient absorption and elimination of calcium, the writers administered various preparations of that drug by mouth and hypodermically in fourteen epileptic cases. A decrease in the number of seizures followed in nearly all the patients treated, diminution or increase in the frequency of the attacks corresponding to increased or diminished absorption of the calcium. In a few cases which were uninfluenced by the treatment it was ascertained that the entire amount of calcium administered had been eliminated in the feces. E. Audenino and A. Bonelli (Riforma Medica, September 5, 1902).

ERYSIPELAS, TREATMENT OF.

Hypodermic injection of diphtheria antitoxin employed in two cases of severe erysipelas of the face with favorable results. This non-specific action of the antitoxic serum is explained by its stimulating action on the phagocytic properties of the cells. Zwetaeff (Prac. Vrach, No. 22, 1902).

GLYCOGEN UNDER PATHOLOGICAL CONDITIONS, APPEARANCE OF.

Leucocytes freshly emigrated from the blood-vessels do not contain glycogen in appreciably measurable quantities. After the lapse of a certain period of time such emigrated leucocytes begin to show a distinct glycogenic reaction. This reaction also appears when leucocytes contained within the vessels have undergone degenerative changes. F. Katsurada (Beiträge zur pathologisches Anatomie, vol. xxxii, No. 2, 1902).

HÆMATEMESIS, DIAGNOSTIC AND PROGNOSTIC IMPORTANCE OF.

The many and varied conditions which lead to vomiting of blood enumerated as follows: (1) primary disease of the stomach, such as ulcer, cancer, erosion, perforation, and acute exulceration following the action of caustics; (2) congestion or inflammation of organs supplied by the same vessels as the stomach; (3) constitutional disease, such as Werlhoff's disease, scurvy, plague, sepsis, leukæmia, etc.; (4) when the stomach is irritated by the blood coming from other parts, such as the nose, mouth, or œsophagus. It is a significant fact that blood in the stomach acts as a foreign body which incites to vomiting, and the importance of a careful examination of the naso-pharynx in obscure cases is evident. Very often doubt exists as to whether the blood

comes from the stomach or the lungs, for, although from the former organ it is dark, acid, and mixed with food, and from the latter brighter, alkaline, and intermingled with air, this difference does not always hold, since with a pulmonary hæmorrhage the blood may first be swallowed or may be coagulated and changed in a cavity, and since with gastric bleeding the amount may be so profuse that it may be brought up unchanged and perhaps partially aspirated and coughed up. Other rarer causes are perforated aneurisms of the aorta, duodenal ulcer, and hysteria. Among the different caustics, those most frequently causing hæmatemesis are acetic acid, lye, and the mercury salts. The color of the vomited blood depends upon the amount of acid in the stomach; if this is normal the color is already dark after five minutes, so that a bright-red tinge generally speaks for profuse bleeding, such as occurs with ulcer. When the color and microscopical examination are not sufficient for diagnosis, chemical tests must be applied, and the most accurate of these is performed by adding one-third the amount of acetic acid and as much ether, shaking and then decanting the latter and adding 5 to 10 drops of tincture of guaiacum, and 15 to 20 drops of old oil of turpentine, when a violet color, intensified by chloroform, indicates the presence of blood. In Werlhoff's disease, yellow fever, plague, sepsis, etc., the vomitus is acid, dark, and suggestive of coffee-grounds, or even tarry, since the normal secretion of the stomach generally goes on. The prognosis depends, of course, upon the amount of blood lost, and the character and severity of the underlying disease; and the importance of a correct estimation of the severity is perhaps greatest in case of ulcer, since the first

hæmorrhage, though slight, is followed by increased secretion of acid, which has a tendency to dissolve off the protective covering and thus lead to perhaps more severe recurrences. In most of the other diseases hæmatemesis is a bad sign. W. Janowski (*Zeitschrift für klinische Medicin*, vol. xlv, Nos. 1 to 4, 1902).

HERNIA, UMBILICAL, RADICAL CURE OF.

Umbilical hernia in children, as a general rule, gets well with the use of a truss. Strangulated umbilical hernia is to be operated on like any other hernia. Radical umbilical hernia is to be operated on if the patient will give consent. Otherwise, a well-fitting truss is to be constantly worn, day and night. Irreducible hernia is to be operated on unless there is some marked contra-indication, like serious kidney- or heart-lesion. Age and size of tumor need be no bar to an operation. The operation to be preferred should combine rapidity of operation with diminution of shock, both by diminishing the hæmorrhage and also the length of time the patient has to be under an anæsthetic. The use of cocaine when ether is contra-indicated. W. H. Conant (*Boston Medical and Surgical Journal*, October 9, 1902).

HERPES ZOSTER.

A comparison of the results reached by J. Abbott Cantrell after a study of 193 cases, and other dermatologists with his own, as studied in the Berlin Dispensary for Skin and Venereal Diseases, led to the following conclusions:—

In frequency, herpes zoster causes 1 per cent. of all skin diseases. There

appears to be no difference in the occurrence of herpes zoster in men and women. Herpes zoster is a disease of youth (15 to 30 years), noted, according to his statistics, in two-thirds of the cases. Before school-age the disease is very rare, during school it becomes more frequent, after 30 years its frequency diminishes, and in old age it is rare. So far as regards the region of the body affected, herpes zoster is, in general, more frequent the more nerves supply the region. There is one exception to this rule, both from his own observations and those of Greenough, namely: an exceptionally large number of cases in the trigeminal region. This may, perhaps, be due to the fact that the region supplied by the trigeminus is more open to injury and disease than any other region. Both sides of the body are apparently affected with equal frequency, bilateral herpes zoster being rare. Zimmerleni says that herpes zoster occurs among physicians and nurses in epidemic form; no other occupation seems to predispose to the condition. The final settlement of this point can only be made by consulting industrial and hygienic statistics. Epidemics of herpes zoster occur in the spring and fall. Sporadic cases occur with almost equal regularity throughout the entire year, though some increase is noted in the spring and autumn months. Max Joseph (*Philadelphia Medical Journal*, October 25, 1902).

IMMUNE BODY IN THE BLOOD OF TYPHOID PATIENTS, ON THE TIME OF THE APPEARANCE OF THE.

The author determined by the method of Bordet and Gengon the

time of the appearance of the immune body in the blood of persons suffering from typhoid fever. In none of the 15 cases examined did the immune body make its appearance during the first two-thirds of the febrile stage. In only a few (4 out of 7) was that substance detected during the last days of fever. With the disappearance of the fever the immune body was present in all cases; but also here the time of its appearance varied. In 2 cases it appeared on the second day of normal temperature; in the majority, however, between the seventh and tenth days. No relation could be established between the appearance of the immune body and the agglutinating properties of the blood. The author's conclusions are: 1. The immune body appears in the blood of typhoid patients in amounts accessible to determination by the method of Bordet and Gengon at the end of the febrile period; in the majority of cases after the disappearance of pyrexia. It remains in the blood for a long time. 2. There is absolutely no relation between the presence of the immune body and the agglutinative reaction. 3. This method cannot be utilized for diagnostic purposes, except in cases in which it is desirable to determine the nature of a past infection to be typhoid fever. K. N. Georgievsky (*Bolnitchnaia Gaz. Botkina*, April 24, 1902; *Philadelphia Medical Journal*, October 18, 1902).

INSANITY, TREATMENT OF, IN PRIVATE PRACTICE.

The writer concludes that the lesson of acute insanities should be modified and retaught, and the earliest possible treatment instituted, looking toward the cure of the acutely insane in pri-

vate, long before there is any occasion to think of asylum treatment, valuable as that is in chronic insanity and for the homicidal maniacs and melancholiacs. He considers that acute insanities of hybrid types—*i.e.*, those that savor of two or more types—are the most hopeful in prognosis, and are therefore the ones to be kept out of asylums to the last moment. Especially where hysteria enters as an element in the case the patient should be kept out of an asylum.

The physician's duty is to overcome the terror felt by lay folk for the insane, and to engender that hopefulness of treatment of such cases in private which is so common in general medical affections. F. Savary Pearce (New York Medical Journal, October 25, 1902).

INSOMNIA, TREATMENT OF.

The various causes of insomnia specified under the following heads: (1) interferences with the normal withdrawal of stimuli of irritation of the sensory nerves; (2) irritation from visceral organs; (3) overactivity, irritable exhaustion of the cerebral neurons; (4) intoxications of the cerebral neurons; (5) hereditary unbalanced and irritable neurons. In the general management of a case of insomnia we can utilize one or more of the following agencies: 1. The induction of muscle-fatigue by walks in the open air or by massage. Many people cannot sleep because their muscles are not tired and their nervous system is overexcited. 2. The clearing away of intestinal and hepatic accumulations by sodium sulphate and salicylate, combined or not with potassium citrate and lithia. This serves several purposes. Autointoxication is diminished, irritation from distended viscera

is diminished, and circulatory equilibrium is aided. 3. The use of a hot bath. 4. Proper sleeping rooms. In regard to the exact action of hypnotics and narcotics on the nerve-cell, it is to be remembered that: first, the nerve-cell is especially rich in fat; second, that the narcotic action of alcohols and chlorine compounds is proportional to their fat solubility; third, that fusion and diminution of the granules of the cell occur after the use of narcotics; fourth, that these changes in the cell may interfere with function by altered chemical composition of cell-contents directly or by causing a retraction of dendritic processes and interrupting neurotic continuity. It is important to remember that all drugs of this class interfere with normal metabolism, that they are purely symptomatic in usefulness, that all are objectionable by reason of secondary and side effects, and that they are used by reason of ignorance of the underlying cause of the symptoms or our inability to control these causes. In a general way we may formulate the indications for their use, *viz.*: Insomnia from pain: Morphine, coal-tar products, and large doses of chloral. Insomnia from increased reflex irritability: Chloral, trional, sulphonal. Insomnia from delirium and chronic insanity: Hyoscyamine combined with morphine. Insomnia from "nervousness," "worry": Bromides, given in sufficient doses,—20 grains three or four times in the daytime,—are incomparably the best and safest hypnotic. It is to be reflected that morphine increases reflex irritability. The chlorals depress the medulla, and are dangerous in heart and vascular diseases and lung, kidney, and stomach irritability. L. L. Skelton (Merck's Archives; Therapeutic Monthly, August, 1902).

LARYNGEAL OBSTRUCTION DUE TO ENLARGEMENT OF THE FALSE CORDS.

As the affection is usually secondary, the treatment consists of two parts: (1) the correction, as far as possible, of any abnormal condition of the air-passages above the larynx; (2) in dealing with the laryngeal conditions local applications of strong solutions of astringents, preferably silver nitrate, 10 to 20 per cent., will slowly, but eventually, palliate most cases. Cases, however, in which the individual lives in constant fear of acute obstructive attacks demand more radical treatment, namely: the partial excision of the enlarged false cords. L. R. G. Crandon (Boston Medical and Surgical Journal, October 9, 1902).

LEUCOCYTE ENUMERATION.

The writer recommends the use of a Thoma-Zeiss pipette,—i.e., the one ordinarily used for red corpuscles,—and collects the blood exactly as for the enumeration of red corpuscles, except that the blood is always collected up to the 1.0 mark. The dilution should be made with some colored fluid, such as Toisson's solution or Sherrington's fluid. The red corpuscles are first counted in the ordinary way. To count the leucocytes, he draws out the eye-piece until a diameter of the field of vision is just spanned by an exact number of squares. He calls this number x —i.e., x = the number of squares which exactly stretch across the diameter of the field of vision. The ruled squares need then no longer be taken into account, but only the fields of vision. He counts the number of leucocytes in any recorded number of the fields of vision, taking care that the fields do not in any way overlap. The stained leucocytes can

readily be distinguished from the red corpuscles. He divides the number of leucocytes by the number of fields of vision counted to obtain the average number per field of vision. This is to equal y —i.e., y = the average number of leucocytes per field of vision. The larger the number of fields of vision counted, the better. Then, with the blood diluted 100 times, the number of leucocytes per cubic millimeter = $\frac{5,000,000}{11 \times 2}$; x and y only have to be determined, and a simple calculation gives the result. W. G. Savage (Lancet, September 27, 1902).

MALARIAL CIRRHOSIS OF THE LIVER OF SPLENIC ORIGIN; INDICATIONS FOR SPLENECTOMY.

The indications for operation are as follows:—

1. When, after vigorous and protracted treatment of months' and sometimes even of years' duration, the general condition of the patient shows no improvement, his color, his weight, his strength gradually fail, the examination of the blood shows progressive diminution in the amount of hæmoglobin, while there is no leukæmia, nor are malarial parasites present in the blood.

2. When the splenic tumor has attained considerable volume so as to occupy all or a good part of the left half of the abdomen; when it presents a more or less increased consistency, or is of unequal firmness, or shows deformations upon its surface or in its border; when there are indications of perisplenitis; when there is ectopia, and when the tumor, with medicinal treatment, shows no reduction in size or a very slow and slight change.

3. When the clinician, studying diligently the condition of the patient and

the possible manifestations of incipient hepatic affection, has no doubt of the harmful influence of the spleen on the liver.

The main contra-indications are cachexia, a reduction in hæmoglobin to a point under 30 or 40 per cent., leucæmia, or tendency toward hæmorrhages. Extensive adhesions between the tumor-mass and the abdominal wall would, of course, also be a contra-indication. A moderate ascites and the suspicion of an incipient hepatic cirrhosis should not entirely contra-indicate operation. Operation is directly indicated in cases of ectopia or twisted pedicle. Statistics of splenectomies for enlarged malarial spleens show relatively good results. The removal of the spleen itself exercises no deleterious effect upon the organism. The author believes that chronic splenic enlargement of malarial origin is often followed by cirrhosis; that its possible dependence upon processes going on in the spleen and the good results of the removal of the spleen in such cases justify this operation in those instances where medical treatment is of little or no avail. Cardarelli (*Rivista Critica di Clinica Medica*, iii, 175, 1902).

MENTAL AND PHYSICAL DEVELOPMENT OF CHILDREN.

Close observers of the development of children know that their mental development proceeds, on the whole, alternately with their bodily development; that they have periods in which their bodily growth is stationary, while their minds develop apace, alternating with periods in which their bodily growth is rapid and their mental development ceases, or even seems to retrograde. If, during the latter period, an injudicious attempt is made to force the mental

development by close application to mental work, the consequence will be a serious "nervous breakdown" of the nature of insanity. The demand upon the energy of the brain is greater than it can supply; it becomes so depleted that it cannot carry on its current function, and the depletion exhibits itself in the form of insanity that is known as stupor. The same condition may result, though more rarely, from excessive addiction to athleticism when the mental development is very active. If the combined effect of concurrent physical and mental development is exhaustive, still more exhaustive is the additional demand upon the energies of the organism which is made by the evolution of the reproductive function at puberty, and when to this is added the further drain of frequent masturbation, we can understand how it is that insanity, or a minor disorder of the same nature, is so frequent in adolescence, and how it is that that is the period of life when stupor and hysteria are most frequent. C. A. Mercier ("Text-book of Insanity," quoted by *New York Medical Journal*, October 25, 1902).

MYOMECTOMY VS. HYSTERECTOMY.

In young women with uterine fibroids demanding removal myomectomy should always be the operation of choice; myomectomy is possible and advisable in the great majority of cases of fibroid tumors in young women. For the safe performance of myomectomy the strictest asepsis is needed, otherwise it becomes a most dangerous operation. In the operation of myomectomy fear of hæmorrhage should be cast aside and bold and rapid methods should be adopted. The operation is attended by the same danger to life as is hysterectomy; the ultimate results, as regards menstrua-

tion, pain, and pregnancy, are satisfactory. A. J. McCosh (Medical News, September 27, 1902).

NERVOUS HEADACHES, TREATMENT OF.

In investigating a given case a careful examination should be made of the internal organs. One should examine for tumor of the brain with the ophthalmoscope. In advanced age arteriosclerosis of the cerebral vessels is frequently the cause. Other causes are cerebral syphilis and periostitis luetica (headaches worse at night), refraction anomalies, as well as diseases of the nose and its accessory sinuses, chronic nephritis, diabetes, alcoholism and nicotineism, gastro-intestinal diseases, and constipation. Of great importance are the anæmic headaches, which are to be treated with iron and bromides, the latter being of eminent value in all forms of nervous headaches. The headaches of the neurasthenic include the sensation of pressure, of a tight band about the head, or of a leaden cap. Hysteria is another cause that should not be overlooked. The most frequent form of nervous headaches is hemicrania or migraine, which is diagnosed by its heredity, periodicity, and accompanying symptoms, as vomiting, spots before the eyes, etc. These cases are seldom cured entirely in the young and middle aged, but are more frequently combated with success in the fifth and sixth decades of life. The treatment is like that of neurasthenia. The pain is diminished and the number of attacks lessened by doses of bromide of from 3 to 6 grammes per day. Arsenic used for a long time is frequently of great value. Other remedies are hardly as efficacious as the above. The best are the coal-tar products. The

habitual headaches are mostly neurasthenic; in the beginning they have the traits of hemicrania, which later disappear. A very common form of headache is what the author calls the "nodular" form. Principally of a rheumatic nature, it almost always begins in the back of the head and spreads over the sinciput and forehead. In cases that have lasted a long time the headache is constant, increases when the patient lies down, and frequently becomes most agonizing, with no remission at night. In these patients there are found along the linea semilunaris of the occipital bone, also along the back of the neck, and sometimes in the parietal fascia, nodes varying in size from a millet-seed to a bean, mostly flat, but at times prominent and always very sensitive. The patients often complain of pain in the back and along the arms, where similar nodes are found. One characteristic of these patients is that they are extraordinarily sensitive to wind, cold, and dampness. The disease is most frequently seen in women. The treatment in the beginning is the application of warmth and massage, which should be persisted in notwithstanding the pain caused. In the acute stage one should employ sodium salicylate or aspirin in fair doses. S. Auerbach (Berliner Klinik, August; Medical News, October 4, 1902).

NITROGLYCERIN, THE ABUSE OF.

A contemporary (Therapeutic Gazette, September, 1902) deplors the abuse of nitroglycerin, which for some curious reason has obtained a reputation in the medical profession as a "cardiac stimulant." Strictly speaking, it is extremely doubtful if nitroglycerin ever produces such an effect. While the first consequences of its influence may

seem to be to increase the activity of the heart, its dominant influence is exercised upon the blood-vessels, so that they are relaxed, and as a consequence the heart has less work to do. It is manifest, therefore, that, when nitroglycerin is administered to a patient suffering from a failing heart, it may produce advantageous results, not because it acts as a cardiac stimulant, but rather because it diminishes the work of the heart by lessening the pressure of the blood-vessels, and so diminishing the resistance in the circulation of blood.

In instances in which a high arterial tension is producing difficult cardiac action, nitroglycerin is therefore one of our most valuable medicaments, and in all probability a majority of human beings would be better for its use in the advanced years of life because of this well-known physiological effect. On the other hand, to administer the drug to patients suffering from cardiac failure of an acute type as a result of accident or collapse arising from other causes is not only an abuse of the remedy, but is quite as well qualified to produce harm as to produce good, since under these circumstances the circulatory failure may be as dependent upon vascular relaxation with an inability of the heart to fill dilated blood-vessels as upon any direct cardiac failure in itself.

It is difficult to find an instance in which a careful consideration of the physiological action of a remedy leads more readily to its beneficial employment than in the case of the drug under consideration. The rule for the use of this drug, in connection with its influence upon the circulation, should be to employ it when the heart is to be relieved of excessive work, and not to employ it when the heart really needs

a direct stimulant, for nitroglycerin is not such a drug.

In all this there is nothing new, but it is well worth reiterating. Editorial (Merck's Archives, October, 1902).

OESOPHAGUS, MALIGNANT STRICTURE OF THE.

While the patient can swallow fluids and semisolids, and while a bougie can be passed and plenty of nourishment taken, he may be let alone as long as (*a*) he can swallow well, or (*b*) a small bougie, No. 12 catheter gauge, can be passed. If the dysphagia increases, even though a bougie can be passed, then a tube must be inserted or gastrostomy must be performed, these conditions being seen in the soft fungating forms; if a bougie cannot be passed, or goes with difficulty, then the same course must be followed, as complete closure may occur at any time. If both conditions arise,—*i.e.*, if the patient cannot swallow and a bougie cannot be passed,—then immediate mechanical treatment is required. C. J. Symonds (Lancet, August 9, 1902).

PNEUMONIA, BLOOD-CULTURES IN.

The author prepared blood-cultures from 30 cases chosen at random out of a total of 63 cases of pneumonia admitted to the medical wards of the Johns Hopkins Hospital during the session of 1901-1902. The object was to determine how frequently the blood was invaded with pneumococci during the course of the disease. The technique adopted in making blood-cultures in typhoid fever was also followed here—that is, 8 to 10 centimeters of blood was withdrawn and well diluted with bouillon so as to destroy the bactericidal action of the blood-serum. Several Erlenmeyer flasks containing

150 cubic centimeters of bouillon were used in each case. Pneumococci grew from the blood in 9 of the 30 cases in which cultures were made, all of which terminated fatally. Altogether 13 of the 30 cases died. The taking of cultures is mainly of a prognostic value, the cases with pneumococcic septicæmia being much more likely to terminate fatally. Most other observers have obtained positive results in about the same percentage of cases in which cultures were made. Within the last year, however, Prochaska has published a series of 50 cases, in all of which he obtained the pneumococcus in the blood-cultures. Of the 50 cases, 12 died. He claims that there is no relationship between the number of organisms and the severity of the attack, but the writer contends that this view is erroneous. Cole (Johns Hopkins Hospital Bulletin, June, 1902).

PNEUMONIA, TREATMENT OF.

Three years ago Cassoute and Corgier stated that, after continuous administration of fairly large doses of creosote carbonate (containing 91 per cent. of creosote, and made from it by the action of nascent carbon dioxide), in most cases a typical fall of temperature occurred during the first twenty-four hours of treatment, and, if the remedy was persisted in for a sufficiently long period of time, the pyrexia became permanent. Relapses and sequelæ, so frequently seen under other methods, were entirely absent. So positive an assertion could not escape attention. Creosote—better beech-wood creosote—is not a new remedy, but its caustic action and its irritating effect on the kidneys when given in necessary amounts have prevented its use. So pronounced were these untoward results that the author

abandoned its use in pulmonary tuberculosis several years earlier. The daily dose of creosote carbonate was from 2 to 4 drachms, the dose interval being six hours. So soon as the temperature reaches the normal the amount is reduced to one-half, and this is continued so long as auscultatory signs persist. What are the results? Cassoute and Corgier report favorably upon 18 cases; Stokes, 7; Bridges, 8; Meitner, 13; Eberson, 4; Van Zandt, 16; von Ruck, 20 (complicating pulmonary tuberculosis); Weber, 9; and Thomson, 18 cases. From these observations the statement of Van Zandt, that creosote carbonate cuts short or aborts a large percentage, mitigates all the rest, and in a small percentage of pneumonia there is no result, is warranted.

The writer reports his observations in 33 cases treated in this manner with no deaths. The disease terminated by lysis in 9; by crisis in 24. Crisis occurred on the sixth day in 1, seventh in 2, eighth in 9, ninth in 6, tenth in 3, eleventh in 2, and on the twelfth day in 1 patient. In 2 patients above the age of seventy lysis occurred. Of 3 alcoholic subjects, in 2 lysis and in 1 crisis was noted. Two instances of double pneumonia both terminated in lysis; in 1 the infection of the two lobes was contemporaneous, in the other by sequence. Aside from the remarkable reduction of mortality, the increased percentage of cases in which crisis is noted is suggestive as to the true significance of that phenomenon, and is an argument for the value of the remedy in nullifying bacterial activity and its results.

He summarizes the treatment of pneumonia as follows: 1. Continuous, persistent, and generous administration of creosote carbonate. 2. Careful ad-

justment of mechanical conditions. 3. Thorough evacuation of toxins by all possible ways. 4. Temporary supplemental oxygen by inhalation. 5. Liquid diet until physical signs disappear.

He emphasizes the avoidance of antipyretics, opiates, ill-advised external applications, digitalis, and other remedies which slowly increase cardiac action. R. W. Wilcox (*American Journal of the Medical Sciences*, September, 1902).

PREGNANCY, URINE AND NITROGEN ELIMINATION IN.

The writer concludes that there is a general and progressive increase in nitrogen and urea content accompanying an increase in specific gravity. The average rate of increment is approximately 0.10 per cent. nitrogen and 0.18 per cent. urea for each increase of two specific gravity numbers. The average variation in both rate of increment and individual value is, however, so large that the specific gravity can furnish only a rough indication of the probable nitrogen content. C. W. Miller (*University of Pennsylvania Medical Bulletin*, June, 1902).

PROSTATIC HYPERTROPHY.

The writer reviews the advantages of the suprapubic transvesical cauterization of the prostate over the Bottini operation and concludes that it admits of an accurate anatomico-pathological diagnosis which is fundamentally essential to intelligent treatment. The cauterization can be made with the galvanocautery or the more commonly possessed Paquelin cautery with ease, rapidity, and safety. A curved cautery-blade will greatly facilitate the proced-

ure. The incision can be accurately placed. We can see the field of operation and the structures being cauterized. The length and depth of the incision can be regulated to meet the requirements in the particular condition found. The temperature of the blade is under direct ocular observation. The time of application can be regulated so as to insure destruction of the tissue, and if the Paquelin is used it can be applied with sufficient force and time to make the incision, regardless of the density of the tissue. There is no danger from bending of the cautery. If hæmorrhage does occur, its location can be definitely determined and measures for its control intelligently and effectively employed, as has been demonstrated by Eisendrath. It is applicable to all forms of enlargement projecting into the bladder, and particularly so in the removal of pedunculated lobes or valve formations. A partial prostatectomy followed by cauterization would be an ideal procedure for such conditions. It is applicable in all cases regardless of urethral obstruction. Such obstructions can frequently be readily removed from within. It admits of the removal of a calculus or the direct treatment of an ulcer. It also admits of suprapubic drainage if the cystitis seems to require it, or if the urethra is impermeable from within. It is not as likely to be followed by infection, phlebitis, sepsis, etc., as the uncertain urethral operation. A. L. Bouffleur (*Annals of Surgery*, July, 1902).

PULMONARY TUBERCULOSIS, ARSENIC IN.

The writer tried hypodermic injections of arsenic in this condition in a series of ten cases in the earlier stages. The mixture used was:—

- B Sodium arsenate, 0.2 (3 grains).
 Carbohc acid ($\frac{1}{2}$ -per-cent. solut.),
 20.0 (5 drachms).

Commencing with $1\frac{1}{2}$ minims (0.1 cubic centimeter), the injections were increased by $1\frac{1}{2}$ minims at first daily, later every second day, until at the end of two weeks a syringeful could be injected. Twenty injections were made. If success was noted, the same course was repeated two to three weeks later. The injections are, as a rule, not painful if the fluid is warm. Local infiltrations sometimes follow large doses. Four patients in the series showed unmistakable effects of the treatment, while the remaining six were unaffected by it. He concludes that arsenous acid, administered as above, temporarily reduces the temperature; the bodily weight increases under the treatment; the appetite is favorably influenced, though less strongly than by the internal use of arsenic; the general subjective condition always improved; the intestinal tract showed no effects of arsenic; no diarrhœa was observed; sweats were favorably influenced; no effect was manifested on kidneys and heart; the pulmonary process remained totally unaffected by the treatment. H. Cybulski (Münchener medicinische Wochenschrift, xlix, No. 33).

PYORRHŒA ALVEOLARIS.

The process in the bone in alveolar pyorrhœa is one of osteitis rarefaciens. It does not develop primarily in the bone, but subsequently, commencing as a purulent inflammation of the gums which gradually extends to the bone and produces the pathological condition. The osteoporotic form of atrophy of the alveolar processes leading to complete loosening of the teeth, so far undescribed, has been, up to the present,

looked upon as alveolar pyorrhœa without suppuration or deposit of tartar. It is on account of this form that Baume and others erroneously maintained that pyorrhœa alveolaris may commence primarily in the bone in the absence of any inflammation of the gums. The osteoporotic form of atrophy of the alveolar process presents a very favorable soil for the development of pyorrhœa alveolaris. Various pathological conditions of a constitutional character, as scrofula, rachitis, syphilis, tuberculosis, acute eruptive fevers, typhus, malaria, diabetes mellitus, tabes dorsalis, rheumatism, gout, chronic catarrh of the stomach, anæmia, chlorosis, unsanitary dwelling, insufficient nourishment, repeated pregnancy, and other debilitating diseases lead to general atrophy of the soft parts of the organism as well as the skeleton and particularly the alveoli. These debilitating conditions create in the bone a favorable soil for the development of pyorrhœa alveolaris, particularly in the form of osteoporotic atrophy. The lack of proper hygienic attention to the teeth during the above-mentioned constitutional diseases leads to a deposit of tartar and suppurative inflammation of the gums, which extends to the bone, forming alveolar pyorrhœa. In the mild forms of pyorrhœa, when only the parts of the alveoli which do not contain bone-marrow are attacked, more attention to the teeth, removal of the tartar, washing with some disinfecting and astringent solution, and correction of the diet are sufficient to effect a cure. In more advanced cases the above treatment is inadequate, and scraping the affected bone with a sharp spoon is the only radical and rapid method of treatment. In the presence of constitutional diseases it is essential to employ in addi-

tion to the local also general treatment. In view of prophylactic and hygienic measures for the prevention of the disease, chewing of solid food, such as a hard crust of bread, is advisable as a means of gymnastics tending to improve the nutrition of the alveoli and strengthening the gums and teeth. N. N. Znamensky (Meditzinskoje Obozrenije, vol. lvii, No. 6, 1902; Philadelphia Medical Journal, October 11, 1902).

RICKETS.

Within the last year and a half several notable contributions to the literature of rickets have been published. Five of these have attracted our particular attention. The first of them that we shall mention, though it was not the first in order of publication, is by A. Delpeuch (Presse Médicale, January 8th), who deals with the antiquity of the disease, and incidentally gives much interesting information concerning the probable origin of various popular names by which the malady and certain deformities due to it have been designated among different peoples. M. Delpeuch hardly needed to demonstrate the fact that rickets was known to the ancients, for in their writings there is to be found the expression *ῥαχίτις νόσος*, the spinal disease, of which our *rachitis* is simply the transliteration, the noun *νόσος* being dropped. They seem to have interpreted hunchback as one of the manifestations of rickets, and we may readily fancy that the conspicuousness of that deformity led to its being made to stand in nomenclature for the disease itself; but their descriptions of the other deformities now commonly referred to rickets leave no doubt that they knew the disease as we know it. Must we conclude from

the remote origin of rickets, asks M. Delpeuch, that it is destined to persist eternally? He answers the question in the negative on the strength of our present understanding of the causes of this error of nutrition and the simple character of the means of preventing it by hygienic care during infancy.

Two of the four other articles are by G. Edlefsen (Deutsche Aerzte-Zeitung, Nos. 22 to 24, 1901; Nos. 8 and 9, 1902), the fourth is by Kassowitz (Deutsche Aerzte-Zeitung, No. 3, 1902), and the fifth by F. Mendel (Münchener medicinische Wochenschrift, No. 4, 1902). All four of the German articles bear upon the etiology of the disease, and three of them upon the question of its infectious nature. They are all summarized in the Centralblatt für innere Medizin for September 6th. Edlefsen has noticed that the majority of cases show themselves during the first six months of the year, and that particularly is their development frequent during the second quarter. These facts, he says, favor the carbonic-acid theory, dwellings being generally closed during the winter months, and they explain also the frequency with which rickets shows itself in houses in which such infectious diseases as polyarthritis, pneumonia, and cerebro-spinal meningitis have occurred.

Kassowitz combats the theory of infection, arguing that rickets does not come on suddenly, as the infectious diseases commonly do, and that it has its origin farther back than in the winter months next preceding its recognition—in the earliest months of life and even before birth. Uncomplicated rachitis coming on suddenly with fever, he continues, does not occur; swelling of the spleen, too, is not common, and when it is observed it is especially in children

that have some blood disease or severe digestive disturbances. He is inclined to think that the repeated inhalation of the volatile products of the ammoniacal fermentation of urine is the most common cause of rickets, but it is plain that no such theory as this will account for the antepatal cases, unless we are prepared to admit the deleterious action of these fermentation products on the mother may be passed on to the foetus *in utero*, and Kassowitz's contention that the first manifestations of the disease are virtually as common in November and December as during the first half of the calendar year seems to detract from the force of his argument against Edlefsen.

Mendel upholds the idea that rickets is caused by insufficient functional activity of the thymus gland, and argues that the nutritive disturbances commonly looked upon as accounting for it operate only by virtue of their diminishing the internal secretion of the thymus. He finds enlargement of the spleen almost always present, but that, too, he regards as due to insufficient development of the thymus. The nervous derangements, especially laryngismus, he thinks, bear the same relation to the thymus that myxœdema bears to the thyroid. He cites Mettenheimer and Friedleben as having found the thymus atrophied in the great majority of cases of pronounced rachitis. He has tried the thymus gland as a remedy, and in many instances with good results. He administers the fresh thymus of the calf, 15 grains a day for each month of the child's age.

We are still, then, far from unanimity as to the etiology and nature of rickets, but it is from such investigations and reasoning as those we have cited that substantial agreement—in other words,

the truth—is to be hoped for before many years have passed. Editorial (New York Medical Journal, October 25, 1902).

SALINE SOLUTION IN ABDOMINAL OPERATIONS, ROUTINE USE OF NORMAL.

The author refers to his first publication on this subject in the American Journal of Obstetrics, in 1895, and states that in 1897 he first employed the peritoneal cavity as the absorbent surface, and his results were so good that he has continued that practice as a routine measure in abdominal operations.

The technique is simple. After partially closing the wound he pours into the cavity through a glass funnel not less than two quarts of normal saline solution at a temperature of 112° F. and quickly ties the few remaining sutures, previously introduced. In a few minutes a marked change is noted in the character of the pulse; its rate is diminished, tension lowered, and fullness increased. The color of the face more nearly approaches the normal, and usually the patient has little or no thirst for the first eighteen hours, has less pain, and requires no enemata of any kind, and is thus kept absolutely at rest and free from the annoyance of *too much nursing*.

In vaginal cœliotomies where this method cannot be employed he begins by having the saline administered subcutaneously. The trocar is entered at the junction of the anterior axillary border with the upper border of the right breast, being plunged downward, backward, and inward, so that the fluid finds the loose tissue in the axilla and backward underneath the scapula rather than under the breast. In this position,

with a very little massage, three or four quarts can readily be injected with four feet of pressure.

In emergency work outside of hospitals, where assistance is limited and sterile salt solution is not to be had, he has used a hastily prepared non-sterile salt solution during an operation by allowing the sigmoid and colon to be slowly filled with the fluid, which can be easily accomplished with the patient in the Trendelenburg posture and the peritoneal cavity opened to permit of the ready guidance of the tube above the pelvic brim. Large quantities may be used in this way without hindrance in the field of operation, and the rapidity of absorption can only be appreciated by actual observation.

Another use of the salt solution has sound theoretical, and proved practical, grounds for its adoption. For a number of years the author has not flushed the cavity or used a drain. He does, however, occasionally make use of the Mikulicz tampon to control general oozing; and in these cases he has found that the filling of the peritoneal cavity after the tampon has been placed tends toward the dissolution of clots and the carrying off of effete material within the pelvis through the capillarity of the tampon. He has never had a bad result from this use of the saline. While there are no certain indications for its use, he is certain that many a case of sepsis, of septic nephritis, and of low cardiac vitality has been saved.

The author here records three cases in which this method was used. The first was the removal of a large widely adherent ovarian cyst. Collapse occurred, but slight recovery took place during the flushing and 4 quarts of fluid were left in the abdomen. The radial pulse soon reappeared, and rising to

160, dropped to 90 within twenty-four hours. Rapid and uninterrupted recovery.

The second case was an operation for extra-uterine pregnancy. As soon as partial anæsthesia was induced, the introduction of salt solution beneath the breast was begun, and when the patient was taken from the table 2 quarts had been given and most of it had already been absorbed. With the checking of the main blood-supply the foetus and the various blood-clots were removed from the pelvis and the placenta was carefully detached. No attempt was made to clean the general peritoneal cavity, but as much salt solution as the space would contain was poured into it and left when the stitches were tied. The posterior wall of the gestation-sac was sewed to the upper portion of the wound in the abdominal wall, and the cavity of the gestation-sac was packed with gauze to control the general oozing.

The patient's condition when first placed upon the table was very precarious, but, with the absorption of the salt solution beneath the breast and the use of strychnine sulphate, $\frac{1}{8}$ grain, the pulse gradually grew stronger and fuller, and at 4 P.M. was 140 in rate.

One-half pint of salt solution was given *per rectum* every hour, and $\frac{1}{32}$ grain of strychnine every two hours and 4 minims of fluid extract of digitalis each four hours, hypodermically.

At 7 P.M. the pulse again began to waver, and again a subcutaneous injection of 2 quarts of salt solution was given, and at midnight the pulse was 160 and rapidly growing stronger and slower. Twenty-four hours after operation it was 128, and never again above this point.

The rapidity with which this patient

responded to the use of submammary injections of salt solution when the conditions seemed most hopeless, and the ease with which the general peritoneum cared for the blood and clots that were left in the cavity, are the two important facts to be deduced.

Case 3 was one of intra-uterine gestation with miscarriage, followed by septic peritonitis. During operation the rectum was accidentally torn, and about three inches were resected with an end-to-end anastomosis. Two quarts of saline were given in the axilla during operation, with excellent results on the pulse. A Mikulicz tampon was placed in the pelvis to control oozing and to protect the rectum at the junction of anastomosis, and 2 quarts of saline were placed within the abdominal cavity. The results were excellent. W. H. Humiston (Transactions of the American Association of Obstetricians, New York Medical Journal, October 25, 1902).

SCARLATINA HÆMORRHAGICA.

The following case of special interest is reported. The patient, a boy aged $4\frac{1}{2}$ years, was admitted June 21, 1902, and, according to the mother's statement, he fell ill June 16th. The admission thus took place on the sixth day after the onset of the disease, which was characterized by the usual malaise, headache, sore throat, cough, and pain in the chest, rapidly followed by a diffuse scarlet rash. On admission this rash was still visible, but was fading, and the fauces and throat generally were congested and foul. During the twenty-four hours following admission the temperature ranged from 101° to 102.4° F., falling gradually in the course of the next six days to 99.6° F. on the 27th. On the evening of this day, the

twelfth from the onset of the disease, it rapidly rose to 103° F., when grain doses of sulphate of quinine were administered every four hours. The temperature then again fell, reaching normal on the 1st of July. So far the case assumed a not unusual course. The patient during this period of observation was pale and rather weak; the pulse was somewhat feeble, but there was no reason to expect anything but a favorable recovery. The cervical glands were not swollen. There was neither thus far nor subsequently any albumin or blood detected in the urine. On July 2d, however (and this is the special point in the case), just as desquamation was setting in, bleeding from the anterior nares commenced. Hæmorrhagic spots, a dozen or so, measuring about three millimeters in diameter, appeared on the anterior aspect of the scalp. Similar spots presented themselves in the neighborhood of the knee-joints. The evening temperature rose to 99.6° F., and the patient became generally feeble; in fact, showed a tendency to collapse. Perchloride of iron applied as a styptic to the nose only partially checked the hæmorrhage during its actual application. On the following day an eczematous rash appeared on the buttocks, and the spots thus formed bled on the slightest friction. Tincture of hamamelis was no more successful than the former styptic in allaying the obstinate epistaxis. Iron was administered internally, and brandy was cautiously exhibited. Posturing and other methods were of no avail in checking the bleeding. It must be remarked that the total quantity of blood lost was very small. The cause of anxiety was the symptom *per se*, suggesting a markedly impoverished or poisoned state of the blood, not an actual loss in quantity.

Desquamation, which had commenced on the hands and feet, became entirely arrested. The patient grew progressively weaker and the temperature rose higher—never above 103.2° F., however, which it reached July 6th. Tepid sponging was now employed. On the 7th, at 3 A.M., the thermometer recorded 103° F. Tepid sponging was again resorted to, causing the temperature to fall to 98.9° F. At 10.30 A.M. the patient vomited, the vomit containing a little unaltered blood. At 11 A.M. he died in a state of collapse. The interesting feature is that the hæmorrhagic symptoms did not appear at the onset of the disease, as in an ordinary case of scarlatina hæmorrhagica, but at a period when convalescence was to be expected. In other words, a profound toxæmia set in at a time when it was to be supposed that antitoxin in the ordinary course of events would be forming and immunity becoming established. Can it be that Nature, as it were, surpassed herself in her process of healing, that the antitoxins had become excessive, and that a "reactionary antitoxæmia," if one may use such a term, had set in? Or can it be that, after the supposed toxins had been sufficiently eliminated to permit of a fall of temperature and partial recovery, a fresh supply of toxins hitherto combined with other material, or otherwise rendered inert, had suddenly been let loose in the blood and set up a secondary toxæmia? V. C. de Boinville (*Lancet*, August 9, 1902).

SCIATICA AND ATROPINE.

The treatment of sciatica is a difficult matter, because the origin of the disease is so difficult to reach. The writer has been treating this condition

for some time with large subcutaneous injections of atropine. Although these large doses determine the usual symptoms of intoxication more or less distinctly, they appear to have a decidedly beneficial result upon the pain. This observer takes 0.06 gramme of atropine in 100 drops of water, and of this injects 3 drops at night, about 10 centimeters below the buttock of the affected limb. In about 20 minutes all the physiological effects of the alkaloid in question appear, namely: acceleration of the pulse to 120, dilatation of the pupil, more or less vertigo, and intense thirst. If these signs disappear in less than 10 hours he supposes the reason to be that the dose was insufficient. The dose is therefore increased by 1 drop until these symptoms of intoxication continue for 24 hours. A second injection must not be given, however, until all the symptoms of the first dose disappear; consequently only one injection a day is required. Twenty-eight patients treated in this manner, including the writer, with a record of 22 definite cures. S. C. Felt (*Semaine Médicale*, No. 36, 1902).

SILVER VITELLIN IN THE TREATMENT OF GONORRHOEA.

The writer has used this new silver compound in the local treatment of gonorrhœa. It is absolutely free from any irritating properties, solutions as high as 5 per cent. causing no discomfort. The gonococci on and beneath the urethral mucous membrane are rapidly destroyed. The amount of urethral discharge is at once lessened in a marked degree in the majority of cases. The actual duration of the disease is shorter than is obtained by the use of any other silver salt. In the writer's

series of cases thirty-eight were cured in from two to four weeks. H. M. Christian (Medical Record, September 27, 1902).

SKIN DISEASES, CARDINAL POINTS IN DIAGNOSIS OF.

These are subdivided as follows: The location of the disease. The distribution over the particular region on which it occurs. The arrangement of the component parts or lesions. The lesions themselves must be studied in detail so as to classify the disease.

Important points in diagnosis which are valuable:—

Eruptions which are bilaterally symmetrical are either constitutional in origin or are exposed to the identical local cause on both sides of the body. Parasitic diseases are found on the flexors preferably or on the exposed parts of the body. The more chronic diseases of the skin become, the deeper the color; on the other hand, the brighter and more vivid the color, the more acute the disease. Scales are the evidence of chronicity; likewise ulcers and scars. Fluid lesions seldom itch. Papular eruptions almost always itch. Single ulcers are almost always syphilitic, trophic, traumatic, or malignant; multiple ulcers are tubercular, syphilitic, or malignant. On the face ulcers are seldom due to other causes than cancer, syphilis, or tuberculosis. The color of eruption on the Caucasian is always important in diagnosis. Syphilis is pigmented brown or buff, as its eruptions fade or disappear. Leprosy is always shaded brown or purple. Lichen ruber is always violaceous or white. Psoriasis is always pale red, covered with white scales. Seborrhœic eczema is always yellow-red, with greasy

scales. The odor in skin diseases is important. Syphilis, when ulcerating, smells rancid; favus smells mousy; varicose ulcers smell sweet; neurotic ulcers or those of leprosy are nauseous, foul, and intense; rodent ulcer has a smell of putrid meat. Isadore Dyer (Medical News, September 27, 1902).

THROMBOSIS.

The subject of thrombosis has of late derived a new interest from the recognition of its association with various infective processes, and to the new light as to its pathology which the demonstration of various micro-organisms has given. "The word 'thrombosis' conjures up before our minds not those benign effects, but some of those disastrous results which we so often see following upon the untimely clotting of blood within the vessels. We think of pains and long-drawn-out disabilities, of extended periods of rest and idleness, perhaps of permanent lameness or paralysis, or even of sudden death, or the ante-mortem agony, all of them so often resulting from thrombosis. Indeed, it plays almost as prominent a part in disease and death as in the preservation of health and life; perhaps we hardly realize how large a part it plays . . . how enormous an advance in practical medicine it will be when thrombosis will be known only as a beneficent phenomenon, and when we are able to prevent its occurrence as a baneful process." (Pearce Gould, Lancet, June 7, 1902.) Phlegmasia alba dolens, milk-leg, phlebitis, commonly considered to be a somewhat rare occurrence, was described by Paget ("Selected Essays," p. 212, 1902) as not unusual after typhoid; and Sir James explained it as an inflammatory thick-

ening and swelling of the walls of the vein, with consequent narrowing of the canal, occurring commonly when the temperature has become normal and constant, but not usual during the continuity of the fever. Murchison described it as occurring in about 1 per cent. of the cases of typhoid. Da Costa gives a very different record, for he found in a series of 135 cases (*Boston Medical and Surgical Journal*, March 23, 1899) that it occurred in 14 per cent. of cases, which were mostly of a severe type, during the period of convalescence, 1 case on the fortieth day, another on the fiftieth, another on the fifty-ninth day. Of the 18 cases, 3 were in the left leg, 2 in the right leg alone, and 13 in both legs. In 2 cases the thrombosis occurred in a relapse, while the temperature was still high. The long-debated question as to the occurrence of a primary thrombosis in a healthy vein, or the presence of phlebitis, has been solved by the demonstration of bacilli in the clot, the clotting being due to the bacilli in the sluggish circulation of the infected blood (Hanshalter, *Mercure Médical*, September, 1893). It is now generally admitted that thrombosis is commonly due to an infective arteritis or phlebitis, that the infection may be due to a great variety of micro-organisms, and that the occurrence of thrombosis is evidence of an infective condition in the great majority of cases.

Cases of peripheral venous thrombosis in pneumonia have been reported by Walter H. Steiner (*Johns Hopkins Hospital Bulletin*, June, 1902). He alludes to the fact that it is common in certain infective diseases, such as typhoid and influenza, also following some abdominal operations, but that it is rare in pneumonia.

Da Costa's case, reported in 1894, was then considered to be unique; but in 1898 he reported two others, making three cases in a series of 500, and the following conclusions were drawn: 1. Rarity of thrombosis in pneumonia; only 38 cases could be collected. 2. In 27 out of the 32 it occurred during convalescence, and must be regarded as a sequel rather than a complication of the pneumonia. 3. The lower extremities were always the parts involved: the left leg in 16, the right in 10, and both in 7 cases.

In malaria, syphilis, tuberculosis, puerperal and other septic states thrombosis is by no means rare, as also is the case in chlorosis, when it is likely to be due to mechanical and other than bacterial conditions.

Leichtenstern found it 11 times in 1653 chlorotics, and that it commonly affected both lower limbs. In a collected series of 86 cases the lower limbs were affected 48 times and the cerebral vessels 29 times.

In accordance with modern views as to the etiology of rheumatic conditions, an infective thrombosis is likely to be of occurrence in rheumatic states. Sansom (*"Twentieth Century Practice of Medicine,"* volume iv, p. 639, 1896), however, states that it is not known to exist at all; but, if the conclusions of Poynton and Paine (*Bristol Medico-Chirurgical Journal*, June, 1901) are correct, an infective thrombosis of rheumatic origin should now and then be recorded.

Two such cases have recently been observed by the writer. A man, aged 62, ill three months with rheumatic pyrexia and two relapses, with many joints swollen, and relieved by salicylates, but with no obvious heart defect, became hemiplegic on right side and

aphasic: after one week he had recovered some power in the arm and could speak a few words; but a week later became more and more somnolent, and died without a fresh attack of any kind, and with no return of pyrexia or any heart symptoms.

The other case was that of a man, aged 40, whose illness commenced in February with left sciatica; a month later he had pyrexia with swelling of the right thigh and calf, due to thrombosis of the femoral vein; afterward similar swelling on the left side; one month later intercostal pains with pleural effusion at the left base occurred, and ten days later pleural effusion at the right base. Meanwhile the rheumatic symptoms, with more or less persistent pyrexia, continued for many weeks, and the convalescence was unusually protracted, as is generally the case with thrombosis of both femoral veins.

Such cases as these naturally suggest the idea that the thrombosis is of infective origin, and resembles that following typhoid, pneumonia, and puerperal conditions, and it gives an argument in favor of the views advanced by Poynton and Alexander Paine (*British Medical Journal*, January 11, April 12, 1902), showing that all the varieties of rheumatism, even the osteo-arthritic type of rheumatoid arthritis, and the malignant endocarditis of rheumatic origin, are of an infective character.

A paper by W. H. Welch (*British Medical Journal*, June 2, 1900), of Baltimore, directs attention to venous thrombosis as a complication of cardiac disease. He had been able to collect a series of 27 cases, and in the majority the location of the thrombus was in the veins of the neck and upper extremities. On one case, reported by the author, the

streptococcus pyogenes was found, and it was thought that the thrombosis was, even in such cases as these, usually of micro-organismal origin. In another such case, reported by D. B. Lees (*British Medical Journal*, November 2, 1901), thrombosis of the brachial veins had been present.

It seems likely that further evidence will tend to show that the microbial origin of thrombosis is much more common than has been supposed, and is of almost equal importance with, perhaps more so than, the various mechanical conditions connected with the heart and blood-vessels, which are well-recognized causes of clotting in the veins and elsewhere. R. Shingleton Smith (*Bristol Medico-Chirurgical Journal*, September, 1902).

THROMBOSIS AFTER PELVIC OPERATIONS.

Thrombosis of the crural veins is more common after pelvic operations than is generally recognized. It occurs frequently in those cases in which large tumors of the pelvic organs have been removed. It rarely follows extrapelvic operations. In this series it has been infrequent after infected cases. The anæmia and cachexia in consequence of new growths seem to be factors in its causation. Constipation and the use of enemata play a doubtful part in the etiology. Traumatism at the time of the operation should be borne in mind and deep retractors used with extreme care. Infection is undoubtedly of great importance, but its frequency is difficult to decide. This complication often occurs when least expected, and usually late in convalescence. Albumin in the urine is more frequent in these cases than in those running an uninterrupted course. The results of rest and eleva-

tion for the full length of time are excellent. B. R. Schenck (New York Medical Journal, September 6, 1902).

THROMBOSIS OF THE LATERAL SINUS.

Operation on the vein should be done in acute pyæmia and acute septicæmia, whether the sinus is occupied by a clot or by fluid blood; if the sinus is gangrenous or its contents are putrefying, unless it is quite clear that the sinus is blocked on both sides by non-infected clot, and this is rare; if it is known or suspected that the blood in the jugular bulb is in part or wholly clotted; and if the jugular vein is thrombosed. When it has been decided to deal with the vein before beginning to operate, the operation on the vein should precede that on the temporal bone. Ablation of the vein is better than ligature. After dealing with the vein the sinus should be thoroughly exposed for a distance of at least three-fourths inch beyond the area of inflammatory change. The freest exposure of the sinus is required. The method of curetting away putrefying clot through an opening in the sinus is one which should be abolished from surgery. The sinus should be slit up, if necessary, from torcula to bulb. The cases demanding operation and the procedure to be carried out in each particular case require the greatest surgical judgment. C. A. Ballance (Lancet, September 20, 1902).

TUBERCLE BACILLUS, ACID-RESISTING BACTERIA AND THE.

The majority of the acid-resisting bacteria may be distinguished from true tubercle bacilli by their inability to resist decolorization by a 30-per-cent. so-

lution of nitric acid in water. Some of the acid-resisting bacteria are capable of causing in rabbits and guinea-pigs nodular lesions suggestive of tubercle; but these lesions, while often very like tubercle in their histological structure, may nevertheless usually be distinguished from them by the following peculiarities: (a) When occurring as a result of intravenous inoculation they are always seen in the kidneys, only occasionally in the lungs, and practically not at all in the other organs. (b) They constitute a localized lesion, having no tendency to dissemination, metastasis, or progressive destruction of tissue by caseation. (c) They tend to terminate in suppuration or organization rather than in progressive caseation, as is the case with true tubercle. (d) They are more commonly and conspicuously marked by the actinomyces type of development of the organisms than is the case with the true tubercles, and these actinomyces are less resistant to decolorization by strong acid solutions than are those occasionally seen in tubercles. By subcutaneous intravenous and intrapulmonary inoculation of hogs and calves the typical members of the acid-resisting group are incapable of causing lesion in any way suggestive of those resulting from similar inoculations of the same animals with true tubercle bacilli. Though occasionally present in dairy products, they are to be regarded as of no significance, etiologically speaking, but may be considered as accidental contaminations from the surroundings, and not as an evidence of disease in the animals. The designation "bacillus" as applied to this group of bacteria and to the exciter of tuberculosis is a misnomer; they are more correctly classified as actinomyces. A. C. Abbott and N. Gildersleeve (Uni-

versity of Pennsylvania Medical Bulletin, June, 1902).

TUBERCULIN, THE DIAGNOSTIC VALUE OF OLD.

When he published his first communication on tuberculin, Koch said that he did not think that it would be going too far to suppose that tuberculin would become an indispensable diagnostic means in the future. This cannot be said to have been realized, but, according to the writer, there was every justification for the supposition. He has employed it in his sanatorium practice in a large number of cases, and asserts that not only is it a certain diagnostic means, but also that it is an absolutely safe one. It has been objected to on the ground that there is a danger of causing the tuberculous process in the lung to become more active, that a reaction does not demonstrate that the tuberculous lesion is situated in the lung, and that it does not tell whether it is active or latent. Against these objections the author states that, as far as the first is concerned, provided that proper precautions are observed, there need be no risk at all; answering the second, he is able to show that healed tuberculous lesions do not call forth a reaction, and therefore a reaction indicates that the process is active; and seeing that the doubtful cases, for which it is so necessary to have a means of early diagnosis, are cases in which there is some sign pointing to a possible pulmonary affection, therefore it is a reasonable inference, on obtaining a reaction, to assume that the tuberculous lesion is situated in the lungs. In late cases marked reactions are not infrequently absent, this being due to autointoxication (according to Durban); but this fact does not

disturb the value of the test, since it is only required in doubtful cases. It is important to have a uniform method of employing the test if one wishes to bring it into general use. Koch's original method was to start with 1 milligramme (approximately $\frac{1}{64}$ grain), to repeat the injection after one or two days with 5 milligrammes, and, after a similar pause, to use 10 milligrammes. The temperature must become elevated by $\frac{1}{2}^{\circ}$ C. before one calls it a reaction, and, for safety sake, the same dose which produced the raising of the temperature must be again repeated after the temperature has subsided, so as to exclude all chance extraneous factors. Although Durban considers that 5 milligrammes is to be regarded as the maximal dose for diagnostic purposes, the writer has reason to believe that at times no reaction is obtained with this dose, and yet the presence of a tuberculous lesion may be discovered by the injection of 10 milligrammes. It is also wise to repeat the 10-milligramme dose when the first attempt does not call forth a reaction before concluding that the patient has no active tuberculosis. The use of the injections is advised to ascertain whether a patient is cured or not before discharge. He further states that, after injecting a patient, it is often possible to detect physical signs in the lungs which were not discoverable before. One should, however, remember that, after treatment with either old or new tuberculin, no reaction is obtainable, and therefore in this case it is of no diagnostic importance. In conclusion, he sums up as follows: (1) tuberculin is the most trustworthy means of diagnosis for early cases which we possess; (2) it is desirable, therefore, to attempt to secure a general use of the method, not only in sanatorium, but

also in hospitals and in private practice; (3) that one should, for the purpose of diagnosis, adhere minutely to Koch's method; and (4) tuberculin is the safest means of determining whether a patient is cured or not. Bandelier (*Deutsche medicinische Wochenschrift*, May 15; *British Medical Journal*, October 11, 1902).

TUBERCULOSIS, NEW MEDICAMENTS AND NUTRIENTS IN THE TREATMENT OF.

Starting with a very unfavorable notice of both old and new tuberculin, the writer discusses the most prominent modern medicaments which have been recommended in the treatment of phthisis. Of Buchner's alcohol packs, he says that he is highly satisfied with the results which he has obtained by this method. The application is said to produce local hyperæmia and thus to increase the antitoxic action of the juices in the affected parts. He employs alcohol externally in all cases of laryngeal tuberculosis and as a method of reducing the fever in pulmonary cases. Against the suggestion that large doses of alcohol internally increase the capability of the organism to neutralize the tuberculous toxin, the writer argues that since the results are so very problematical, and the baneful effects so very certain, this form of treatment cannot be recommended. With regard to the more recent investigations on helol treatment, the writer proposes reserving his opinion until another article from his pen appears. A few words are spared for the theory that consumptives take up too much oxygen and form too much carbonic acid, and the deduction from it, that the treatment should be conducted to remedy this defect. The

next points touched upon are the uses of arsenic and sodium cacodylate, both of which appear to him to be based on weak grounds. Mendel recommends intravenous injections of the latter drug in doses of 0.05 to 0.15 gramme *pro die*, with two days' interval between. Free iodine is said to have a beneficial influence on phthisical processes, and the method suggested of employing this is by giving potassium iodide internally, and at the same time using inhalations of turpentine. According to Italia, an infusion of pancreas destroys the tubercle bacillus, prevents the development of the same, and cures the disease. Pancreas is said to contain a specific antitoxin for tuberculosis. In dealing with the treatment of symptoms the writer mentions suprarenal extract for hæmorrhage, as well as gelatin injections. For reducing fever good results have been obtained from pyramidon, which is an amido-derivative of antipyrin. At times the writer combines with this drug camphoric and salicylic acids, and with good results. The dose of pyramidon recommended is 1 to 3 grammes (15 to 45 grains). Purgatin in doses of 0.3 to 0.6 gramme (5 to 10 grains) every morning is well spoken of. For the anæmia of phthisis triferrin is mentioned, which contains 22 per cent. of iron and $2\frac{1}{2}$ per cent. of organically combined phosphorus. The dose given is one tablet, containing 5 grains, three times a day. Ferratin is also spoken well of, especially when given in the form of the syrup of the iodized ferratin. Among the new inhalation preparations forman is most highly recommended. It can be applied either by means of an inhalation apparatus, or on cotton-wool, or in the form of an ointment. Turning to the new nutrient preparations roborat is recommended,

which is preferred in the form of rolls, containing 50 per cent. roborat. Eubiose is a new preparation, made from blood, and containing CO_2 . It is said to be easily digestible. Alboferrin is also well spoken of. G. Schroeder (*Zeitschrift f. Tuberc. u. Heilst.*, July; *British Medical Journal*, October 11, 1902).

TUBERCULOSIS, TREATMENT OF.

The writer praises creosote in large doses when it does not interfere with the digestion. The dose is increased 1 drop each day until the tolerance of the stomach is ascertained. The drug administered in this manner lowers fever, lessens cough, changes the character of the sputum, and often arrests the progress of the disease. Creosote administered in other ways than by the mouth is much less efficient. Guaiacol given in the same way is less disagreeable to the patient and is preferable to creosote when gastric symptoms are prominent. Jesse Shoup (*American Medicine*, October 4, 1902).

TYPHOID FEVER, ETIOLOGY OF.

There is no evidence to show that the enteric bacillus, when placed in soil, displays any disposition or ability to increase in numbers or to grow upward, downward, or laterally. The enteric bacillus can be washed through at least 18 inches of soil. The enteric bacillus is able to assume a vegetative existence in ordinary sewage-polluted soil and survive therein for as long as seventy-four days. The presence of organic or nutritive material in the soil appears to have no influence on the existence of the bacillus.

An excess or great deficiency of moisture in the soil appears to be the dominant factor affecting the possibility

of recovering the enteric bacillus from the soil. From fine, dry sand the enteric bacillus can be recovered on the twenty-fifth day. From fine moist sand the enteric bacillus cannot be recovered later than the twelfth day, probably because it is washed down into the deeper sand layers by the liquids added. The enteric bacillus appears to die out rapidly in peat. From ordinary soil kept damp by the addition of rain water the enteric bacillus can be recovered up to the sixty-seventh day. From a similar soil kept damp by the addition of raw sewage the enteric bacillus is recoverable up to the fifty-third day.

When the addition of diluted sterile sewage is made to a similar soil, the enteric bacillus is recoverable up to the seventy-fourth day. In a similar soil, after a heavy rainfall, the enteric bacillus at once disappears from the surface layers. From a similar soil allowed, after inoculation, to become so dry as to be readily blown about as dust, the enteric bacillus can be recovered up to the twenty-fifth day, and enteric infective material can be readily translated from dried soil and sand by means of winds and air-currents. In a sewage-polluted soil recovered from beneath a broken drain, the enteric bacillus is able to survive up to the sixty-fifth day. From a piece of khaki inoculated with an emulsion of enteric bacillus and then allowed to become dry, the organism is recoverable up to the seventy-fourth day. From a piece of blue serge similarly treated the enteric bacillus is recoverable on the seventy-eighth day. From a piece of khaki fouled by liquid enteric faeces and then allowed to dry, the micro-organism is recoverable on the seventeenth day. The enteric bacillus is able to survive in surface soil an exposure to 122 hours of direct sunshine,

extending over a period of 21 consecutive days; from a piece of infected serge the enteric bacillus is recoverable after the fabric is exposed to 50 hours of direct sunshine spread over a period of 10 days.

Ordinary house-flies can convey enteric matter from specific excreta or other polluted material to objects on which they may walk, rest, or feed; such infected matter appears to be attached not only to their heads, but also to their legs, wings, and bodies. R. H. Firth and W. H. Horrocks (British Medical Journal, September 27, 1902).

UVEITIS, TREATMENT OF.

The etiology of the ocular inflammation is to be investigated in order to obtain some general therapeutic indication. In general in acute processes of specific origin mercury, best by inunctions, is indicated, aided, if necessary for the absorption of exudates, by iodides. Mercurials are often of service, even when there is no specific cause demonstrable, but here oftentimes salicylates accomplish more than the iodides. Atropine is pretty generally indicated, aided, if necessary, in severe inflammations, by moist heat and diaphoresis. Subconjunctival injections either of sublimate or sodium chloride may sometimes be tried. They can do no harm, though it is not yet certain how much good they accomplish or just what are their indications. W. B. Marple (Journal of the American Medical Association, October 4, 1902).

VACCINATION AND SMALL-POX IN PORTO RICO.

In October, 1898, small-pox was endemic in Porto Rico; in December it

was epidemic; in January, 1899, it had "honey-combed" the island, and the disease was spreading at a gallop. In February systematic compulsory vaccination, carefully and scientifically conducted and recorded, was begun simultaneously and with pretty equal efficiency in all parts of the island. It was vigorously prosecuted *for four months only*, ending July 1st, when 860,000 vaccinations had been made in a population of about 960,000. Of these, 87 1/2 per cent. were successful. The work then ceased, because completed; the disease had practically disappeared; the fuel for it to feed upon had been consumed by the "head-fire" of vaccination. In the two and a half years that have since passed, instead of the former annual death-rate of 621, the mortality from small-pox has been but 2 per annum in a population of nearly a million. Can any *honest*, intelligent person doubt, in face of these indisputable and easily verified facts, *what it was that in four short months drove small-pox from its wide and long-time reign in the island, and has since kept it out? Vaccination alone did it and will do it effectively, wherever compulsory legislation, properly enforced, secures its benefits to all.* Major Azel Ames (Pacific Medical Record, September, 1902).

WOUNDS OF THE CHEST, STAB.

Probing is not always satisfactory, and it is more advisable to enlarge the wound and determine its depth with the eye. In case a rib or cartilage is in the way, resection should be resorted to only when there is hæmorrhage from an intercostal artery and when the source is otherwise inaccessible. When satisfied that the wound penetrates the pleura, an antiseptic tampon should be

introduced into the chest cavity. If there are no contra-indications it should be left *in situ* for four or five days. In the cases in which the wound was sutured the procedure proved unmistakably harmful in 50 per cent. Complications should be treated on general

principles. In case of hæmothorax the chest should be opened with a trocar or by resection of a rib. In progressive emphysema an outlet should be made for the air in the pleura. B. K. Finkelstein (Botkin's Gazette [St. Petersburg], Nos. 19 and 28, 1902).

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs :—

Proceedings of the Philadelphia County Medical Society, September, 1902.—Proceedings of the Philadelphia County Medical Society, October, 1902.—The Public and the Doctor. By B. E. Hadra, Dallas, Texas. 1902.—Supplementary Notes on Abortion of Mastoiditis. By T. R. Chambers, Jersey City, N. J. 1902.—Acute Pharyngitis of the Streptococcal Type. By L. S. Somers, Philadelphia. 1902.—Urticaria of the Upper Respiratory Tract. By Lewis S. Somers, Philadelphia. 1902.—A Brief Note on the Pathology, Diagnosis, and Treatment of Nasal Accessory-Sinus Affections. By E. Larue Vansant, Philadelphia. 1901.—Diseases of the Ethmoidal Cells. By E. L. Vansant, Philadelphia. 1902.—Wounds, with a Discussion of What Constitutes Rational Treatment. By Frederic Griffith, New York. 1902.—The Complications of Phimosis, with Treatment. By Frederic Griffith, New York. 1902.—Drainage *Versus* Radical Operation for Suppuration in the Female Pelvis. By C. P. Noble, Philadelphia. 1902.—Report of a Case of Epithelioma of the Clitoris, with Operation. By C. P. Noble, Philadelphia. 1902.—Two Cases of Deciduoma Malignum. By C. P. Noble, Philadelphia. 1902.—Clinical Report upon Urethral Surgery. By C. P. Noble, Philadelphia, 1902.—The Dispensary or Home Treatment of Pulmonary Tuberculosis. By J. F. Russell, New York. 1902.—Report of Three Rare Operations upon the Urinary Organs : 1. Hypernephroma of the Kidney ; Nephrectomy. 2. Papillary Carcinoma of the Pelvis of the Kidney ; Nephrectomy. 3. Stone in the Left Ureter ; Extraperitoneal Operation ; Removal of the Stone. By C. P. Noble, Philadelphia. With Pathological Notes by W. Wayne Babcock, Philadelphia. 1902.—The Home Vineyard, with Special Reference to Northern Conditions. By W. H. Ragan, United States Department of Agriculture, Washington, D. C. 1902.—The Dairy Industry and Dairy Markets in Porto Rico, with Notes on St. Thomas and Cuba. By Raymond A. Pearson, United States Department of Agriculture, Washington, D. C. 1902.

THE MALTINE PRIZES WON BY PHILADELPHIANS.

We are pleased to learn that the two prizes of \$1000 and \$500, which the Maltine Company offered last January for the best two essays on "Preventive Medicine," have been awarded by the judges,—Dr. Lewis, of New York ; Dr. Reed, of Cincinnati ; and Dr. Rhodes, of Chicago,—who met for a final consultation in Buffalo. Two hundred and nine essays were submitted in competition, and, although nearly every State in the Union was represented in the contest, both prizes were won by Philadelphia physicians. The thousand-dollar prize was awarded to Dr. W. Wayne Babcock. His essay is entitled : "The General Principles of Preventive Medicine." The five-hundred-dollar prize was awarded to Dr. Lewis S. Somers. His essay is entitled : "The Medical Inspection of Schools—a Problem in Preventive Medicine." The two successful essays will first be published in representative medical journals, and then in permanent form for gratuitous distribution to the profession at large.

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Cyclopædia of Current literature.

ALCOHOL IN THERAPEUTICS.

There are few problems of greater importance than the place that should be accorded alcohol as a beverage, a food, and a therapeutic agent, respectively. At the outset the question arises:

Is the use of alcohol for any or all of these purposes, on the one hand, desirable, useful, and free from danger, or, on the other hand, undesirable or unnecessary or even injurious; and the answer must be shaped from a knowl-

edge of the physiological actions of the substance in question. Now, so far as is known, alcohol belongs in the group of physiological agents known as sedatives or narcotics, such apparent stimulation as it gives rise to being due rather to paralysis of inhibition. Alcohol is an irritant of tissue and, in sufficient amount and concentration, a protoplasmic poison.

As a beverage, alcohol is unnecessary, as this purpose can be at least as well fulfilled by a number of other substances quite devoid of danger. The sense of well-being to which alcohol gives rise is due in part to loss of the sense of responsibility, and is therefore not to be lightly invited. Such value as a food or as a producer of energy or of heat as alcohol has is possessed by a large number of other substances incapable of harm, while the rapidity with which alcohol, when taken in moderate amounts, is consumed in the body is offset by the attendant interference with metabolism. As a therapeutic agent, alcohol will find its indications when its physiological effects are desired, and these cannot be better induced, or with less danger, by any other means.

This entire subject has received generous and frequent discussion in recent years, and it would appear from the published communications bearing thereon that the view as to the inutility of alcohol for many of the objects for which it has long been employed is gaining increased acceptance. The November number of the Practitioner contains a symposium by distinguished English authorities on various aspects of the use of alcohol. The editor's own attitude appears to be one of tolerance or neutrality. In the opinion of Sir Samuel Wilks, who has him-

self used wine moderately as a beverage, alcohol is a good medicine and an important article of diet, but he holds that the circumstances and the limitations of its employment should be determined by the medical man. Sir Henry Thompson relates that early in life he personally secured relief from hemicrania and rheumatism by abstinence from alcohol. On attempting, at the age of 75, to resume the use of wine he found the effect to be unquestionably injurious. Sir William Broadbent insists that alcoholics should be regarded as medicines and prescribed with the same care and in the same definite way as the most powerful remedies.

In discussing the pathology of alcoholism Dr. G. Sims Woodhead points out not only that the excessive use of alcohol induces cirrhotic changes in kidney and liver, but also that pneumonia, for instance, in alcoholic patients assumes a most virulent form and often terminates fatally, marked fatty degeneration being found in various organs, and that a history of alcoholic indulgence is often an antecedent factor in the etiology of a number of diseases of the nervous system. The deleterious effects of alcohol are due to interference with nutrition and to gross degeneration of cytoplasm. These are most marked perhaps in the fibers of the heart-muscle, but in advanced cases they appear also in the muscular coat of the blood-vessels, in the liver-cell, and sometimes in the excretory cells of other organs. Fibrosis and calcification may result as secondary changes. Furthermore, it has been demonstrated that indulgence in alcohol predisposes to infection and that alcoholics attacked thereby resist its ravages less well than do abstainers. Dr. Woodhead always

has been an abstainer, and he has found that as an athlete, as a student, and as a worker he has been able to accomplish the tasks that have fallen to him with as little effort as his fellows, if not with less effort.

After pointing out the truly enormous annual expenditure for alcoholic beverages in the United Kingdom, together with the resulting pauperism, crime, destitution, and disease and the losses in labor and due to accident, etc., Dr. James Edmunds cites the experience of the United Kingdom Temperance and General Provident Institution, which for more than fifty years has insured abstainers, and non-abstainers in separate departments. It has been found that the number of deaths expected, the number that actually occurred, and the policy claims paid were all more than 25 per cent. greater in the case of non-abstainers than in that of abstainers. Furthermore, the statistics of the registrar-general for England and Wales show a much higher mortality among persons engaged in occupations that favor indulgence in alcohol. Testimony of an allied character is presented by Dr. J. J. Ridge and Mr. Francis Vacher.

As to the part that alcohol plays in surgery Mr. Pearce Gould holds that it is altogether an injurious one. Mr. J. Milne Bramwell cites the results obtained in the treatment of 76 cases of dipsomania and chronic alcoholism by means of hypnotic suggestion. Recovery ensued in 28 cases, improvement in 36, and failure in 12.

As will be seen, the symposium in the Practitioner constitutes a strong document in favor of temperance, if not abstinence, with respect to the use of alcohol. Whatever the measure of doubt or uncertainty in which the question is

involved, that attitude would appear to be at least a safe one. It will not be contended that alcohol is necessary as a beverage or as a food, and it can therefore be dispensed with for such purposes. As to its therapeutic employment, there may be reasonable difference of opinion, and we may wait for further evidence on this point before reaching a final conclusion. Editorial (*Journal of the American Medical Association*, Dec. 6, 1902).

ANÆSTHESIA, THE ACCIDENTS OF.

Chloroform has a narrower zone of safety than ether. Its toxic effects are, as a rule, manifest at the time of administration. Ether is the cause of death in many cases through renal or pulmonary complications from hours to days after the anæsthesia. The late deaths due to chloroform are so rare as to render this factor practically of no importance. Chloroform is a more dangerous anæsthetic than ether, and must be watched far more carefully. Chloroform kills more frequently through primary cardiac than respiratory syncope, and the anæsthetizer must watch constantly the decrease in volume and rapidity of the pulse, indicating the fall of blood-pressure and a slowing of the more shallow respiration. Chloroform syncope can be avoided by keeping the head low,—if possible, turned to one side; keeping the jaw forward; watching the pulse, respiration, and pupil; keeping the patient's mind quiet, and keeping the chloroform well diluted with air. Ether rarely causes death through its immediate effects, but more frequently through its after-effects, such as pneumonia and uræmia. These complications may be avoided by keeping the head lower than the level of the body, turned to one side, and not

giving the ether in too concentrated a form; also by not keeping the patient on his back too long, and by relieving post-operative tympanites as soon as possible. The contra-indications to the use of chloroform are myocarditis, pericardial adhesions, and non-compensated valvular disease. In all other forms of heart disease it may be given. It should not be given when the blood-pressure is low or in status thymicus, or when a prolonged anæsthesia is necessary. The pulmonary complications are relatively more frequent with local anæsthesia than if a general anæsthetic is given. They may be due to aspiration of mucus or food, or to hypostasis and to embolism. The latter is far more frequent than is ordinarily thought. These are to be avoided by exposing patients as little as possible. The writer recommends the use of heated operating-tables; avoiding recumbent position and tympany; and, in order to avoid renal complications, a careful examination of the urine before anæsthesia.

Artificial respiration, the method of König-Maas, or massage of the heart, rhythmical traction of the tongue, method of Prus, or direct exposure of the heart, and intravenous salt transfusion are recommended, but he prefers to begin with massage of the heart and rhythmical tractions of the tongue (16 to 18 times a minute). D. N. Eisen-drath (*American Medicine*, Nov. 15, 1902).

ANGINA PECTORIS, PATHOGENESIS AND SUCCESSFUL TREATMENT OF.

The writer confirms the remarkable benefit to be derived from theobromine in these conditions as announced by Askanazy in 1895. The diuretic in-

fluence of this drug is familiar, but its property of promptly arresting the pains of angina pectoris, cardiac asthma, and allied conditions is less generally known, and yet the writer considers it one of the most blessed facts in modern therapeutics. He describes over a dozen cases in detail, showing its rapidly beneficial influence in all pains of arterial origin. They form a series ranging from pure angina pectoris to attacks of pain attributed by the patients to the head, stomach, shoulder, kidneys, or intestines, and apparently with no features in common with angina pectoris; yet all show by the prompt response to theobromine that they have a common origin in the arteries, and that theobromine has a specific action on the latter. Arteriosclerosis and certain other affections of the arteries are liable to cause constant pains in the vessels which may radiate to remote regions. The pains may be due to increased blood-pressure and distension, but they are also liable to be caused by spasmodic contraction of the arteries. These contractions occur by preference in the smaller arteries, and are the result of pathological or pathologically exaggerated reflexes originating in the diseased vascular wall. They are set in motion by various causes which raise the blood-pressure: emotions, muscular exertion, the horizontal position in sleeping, etc. They are especially liable to occur in the organs which require the largest supply of arterial blood, such as the digestive tract, heart, and muscles. The arterial fluxion induced by increased function starts the attack of pain. The spasmodic contraction of the arteries causes symptoms of ischæmia as the arterial supply is cut off from muscular organs. In the extremities it becomes evident as intermittent

claudication; in the digestive tract, as paresis and meteorism; in the heart, as sudden inadequacy and paralysis. Sensory phenomena may be superadded to these, and it becomes difficult to decide whether the pains are due to the vascular spasm or to the ischæmic parenchyma. When the vessels of the heart are directly or indirectly involved, the specific angor cordis develops. The lesions of the heart arteries may radiate the pain to remote regions. The spasm of the heart arteries is peculiarly intense when it is not the result of the usual causes, but is due to direct irritation of the intima by a thrombus or embolus. This explains the sudden death that may occur from a small embolus in one of the terminal ramifications of a coronary as well as in case of obstruction of a large artery from this cause. Theobromine has evidently some action on the spasmodic contraction of the arteries, and when this is controlled the pain ceases. It may also act by diminishing the reflex excitability or by reducing the arterial pressure. Be this as it may, the fact is established that theobromine is a powerful and harmless remedy for pains on an arterial basis. The writer always gave it in the form of diuretin (Knoll), in doses of 0.5 gramme four or five times a day, and in the severest cases 3 to 4 grammes a day. The only objection to its use is the high price charged for the preparations of theobromine. R. Breuer (*Münchener med. Wochenschrift*, Oct. 14, 1902; *Jour. Amer. Med. Assoc.*, Nov. 15, 1902).

APPENDICITIS, LUNG COMPLICATIONS OF.

Probably every surgeon of much experience has seen several cases of severe post-operative pneumonia, and possibly

of death, following operation for appendicitis. A more careful observation of the condition of the lungs after all operations would no doubt show a larger proportion of cases in which there is some inflammation of the lungs after these operations than is generally supposed. The symptoms are so slight in many cases that they might be readily overlooked, and recovery is little, if any, delayed.

Sonnenburg (*Archiv für klinische Chirurgie*, lxxviii, 468, 1902), of Berlin, who has become well known to American surgeons as one of the few advocates of the early operative treatment of appendicitis in Germany, has recently published a very interesting paper on this subject. In 1000 cases of appendicitis operated on in private and hospital practice he finds lung complications following operation in 5 per cent. of all cases. In 740 cases operated on at the Moabit Hospital in Berlin he found 7 cases of pleurisy and 1 case of bronchitis, all followed by recovery. In 5 cases of pneumonia 3 of the patients recovered. The lung complication followed in 12 cases which were operated on during the attack and in 1 case operated on in the interval. Although it would seem, at first sight, that the dangers of this complication are much less in cases operated on in the interval, and Sonnenburg's statistics in hospital practice seem to indicate this, his experience in his private clinic is quite the reverse. Out of 260 cases operated on in his private sanatorium, lung complications were observed in 13 cases, 9 of whom were operated on in the interval and 4 during the attack.

As to the cause of these important complications, various suggestions have been made. Since Gussenbauer's paper, published a number of years ago, called

attention to the inflammatory conditions of the lungs which frequently follow strangulated hernia and showed the apparently direct connection between the thrombosis which occurs in the small vessels in the strangulated part and lung embolus, numerous writers have been inclined to attribute most of these pneumonias to embolus. Although a large number of cases may be due to embolus, there are undoubtedly cases in which other etiological factors are of still greater importance. The advocates of chloroform anæsthesia are inclined to call all of these cases ether pneumonias, or ether bronchitis, but it is significant that the inflammation seldom follows directly after the administration of the anæsthetic, but usually several days later, which should not be the case if the inflammation resulted directly from the effect of the anæsthetic. Exposure of the patient in poorly heated operating-rooms may give rise to chilling of parts of the body not accustomed to exposure and inflammatory diseases of the respiratory tract. This is, no doubt, a factor of greater importance than is generally believed. The fact that patients are kept flat on their backs to lessen the liability to post-operative hernia, not only after operations for appendicitis, but after all abdominal operations, makes these inflammatory conditions much more frequent after abdominal operations. Those who believe that thrombosis most frequently results from infection will perhaps attribute to the infectious condition itself a part of the danger of causing these conditions.

No doubt, more careful attention to details which suggest themselves from a consideration of the causes of lung inflammations after operation would considerably reduce the number of such

complications, which frequently add so much to the anxiety of the surgeon after operation. Editorial (*Journal of the American Medical Association*, Nov. 1, 1902).

APPENDIX, NORMAL INVOLUTION OF THE.

This organ normally undergoes an involution process, which is marked by a gradual disappearance of the mucous coat, with obliteration of the lumen of the appendix. These cases, the writer remarks, have received anatomists' attention and have escaped the notice of the surgeon. It is a class of common cases that go the rounds of the medical profession, seeking the relief which has not very often been given, because the nature of the case was not clearly defined in medical literature. They complained of a sense of discomfort in the region of the appendix, but with no history of acute attacks, and nothing is found on palpation; so that they are put down in the category of intestinal indigestion, due to some cause requiring the analysis of a physician. The author mentions a case of a well-known surgeon, who was convinced that something was wrong with his appendix. For four years there had been an area of localized discomfort in the region of his appendix, with occasional neuralgia of the ilio-inguinal and ilio-hypogastric nerves. There was no actual pain, and there were at first periods of complete relief, but these became shorter and shorter, until finally the discomfort was so persistent that he sought relief. That patient insisted upon operation, and the appendix was removed. The appendix was about three inches long and presented no evidence of infective changes. On longitudinal section it was observed

that nearly all of the distal half of the appendix had a normal involution process, with obliteration of the lumen and replacement of the lymphoid and mucous layers by connective tissue. This replacement tissue was practically scar-tissue and it probably so crowded the nerve-filaments as to be the cause of the discomfort in that region. The symptoms of this disorder belong to middle life, though they sometimes become marked as early as the twentieth year. They persist over a series of years, and probably disappear in later life, when the appendix has become transformed into a string of looser connective tissue. It is to be differentiated from tuberculosis of the appendix, and benign mucous occlusion, or appendiceal irritation due to torsion or angulation. Hysteria can be recognized by the accompanying neurotic manifestations. Treatment should be symptomatic, and operation should not be the procedure of election. R. T. Morris (*American Journal of Diseases of Women and Children*, Oct., 1902).

ASCITES DUE TO CIRRHOSIS OF THE LIVER.

The author states that the following line of treatment is indicated when dealing with clear cases of ascites due to cirrhosis of the liver: The more rapid have been the accumulations of ascitic fluid, the greater the reason to provide for long-continued drainage which is to follow the operation, and to expect that very gradual improvement in all symptoms is the most and best which can be hoped for. In these advanced and apparently hopeless cases of rapidly recurring ascitic accumulations the three things of greatest import appear to be: (a) The full appreciation before operations of the neces-

sity, and the provision for a constant and thorough aseptic pelvic drainage. (b) The general observance of a rational and aseptic operative technique, such as that used in the third case of Mr. Morrison, and which he followed quite closely in his case. In other words, the readiness to forego the introduction of personal innovations until those methods, which appear reasonable, shall have been proven faulty. (c) The value of Morrison's adhesive strapping to keep in approximation the denuded peritoneal surfaces and at the same time to compel the serous effusion to find its only available space in the pelvis appears to him most evident. The importance of the long continuance of this device he had ascertained in two cases. Each time an accession of ascitic fluid to the upper part of the peritoneal cavity was apparent. (d) An unusual vascularity of the granulation tissue forming the infra-umbilical fistula was shown on several occasions, especially during the last stages of dressings, by so considerable a hæmorrhage as to require constant plugging. From this the writer concludes that an important and considerable part of the anastomotic circulation may in this patient's case be maintained by this particular band of adhesions. Brown (*Annals of Surgery*, Aug., 1902).

BRIGHT'S DISEASE, TREATMENT OF.

To analyze thoroughly the results of treatment in Bright's disease one must have a clear conception of the histology and physiological functions of the kidney. Its complex pathology must be clearly understood. All the etiological factors must be given full consideration. The etiological factors are numerous and very complicating in their action. Only one, if any, of these can be reached

by surgical intervention. Most of the etiological factors can be modified or removed by well-directed dietetics and therapeutics. Histologically speaking, Bright's disease can be cured. Physiologically speaking, the etiological factors can be modified and often removed, the symptoms held in abeyance, while the renal glands perform their functions normally. Bright's disease is by nature an oscillatory malady, accompanied with frequent remissions and exacerbations. Remissions must not be mistaken for cures. Rational dietetics and therapeutics offer the largest possibility for a complete physiological cure. A well-regulated mixed diet, especially if composed largely of the animal class, when it can be tolerated, yields the best results. All therapeutics to be rational must be directed, not at the pathological lesion *per se*, but toward establishing a more perfect digestion and metabolism and a decrease in the work imposed upon the renal glands. W. H. Porter (Medical Record, Sept. 27, 1902).

BURNS OF THE SKIN, BLOOD-EXAMINATION IN.

After examining the blood in ten cases the writer records the following points: The blood flows sluggishly, and is of a peculiar dark-purple appearance. An immediate increase in the number of erythrocytes, in severe, but not fatal, cases, of from 1,000,000 to 2,000,000 per cubic millimeter, takes place within a few hours; in fatal cases, of from 2,000,000 to 4,000,000 per cubic millimeter. A rapidly increasing leucocytosis constantly occurs; in cases ending in recovery often of 30,000 or 40,000 per cubic millimeter; in fatal cases usually above 50,000 per cubic millimeter. Morphological changes in the

erythrocytes are slight. The percentage of neutrophiles is somewhat above the normal, but not so much as in the ordinary inflammatory leucocytosis. A considerable destruction of the leucocytes takes place, especially in very severe burns. Myelocytes may be present in small numbers in severe cases. There is, as a rule, marked increase in the number of blood-plates E. A. Locke (Boston Medical and Surgical Journal, Oct. 30, 1902).

CALIFORNIA, SOUTHERN.

On account of the proximity to the ocean, which is a great natural conservator of heat, the temperatures are, as a rule, moderate and equable. Because of the exceedingly diversified topography the climate conditions are likewise much diversified. The prevailing easterly drift of the air in these latitudes brings a constant supply of fresh air, neither too hot nor too cold, to most of the State. Northern California escapes many of the disturbances so familiar elsewhere. The combination of the above gives a climate different from that of other sections of our great country. Alexander McAdie (Medical News, Nov. 15, 1902).

CANCER, TREATMENT OF INOPERABLE.

The bacterial treatment of malignant disease is not of the slightest use in carcinoma. Not one-half of the cases of spindle-celled sarcoma disappear under treatment with Coley's fluid. In cases of carcinoma, other than the spindle-celled, Coley's fluid is not of value. The treatment by Coley's fluid has many dangers, and should never be employed except in absolutely inoperable cancer.

Beatson's treatment is limited in its action to cases of mammary carcinoma, and even in these cases only a small proportion are influenced by the treatment, while neither as a cure nor as a palliative can it be relied on in any given case. Rodent ulcer has in Finsen's light and in the x-rays its most successful treatment, and this is true not only of cases otherwise inoperable, but also of operable cases, because of their excellent cosmetic results, and of their effect on insidious and non-evident foci. Sarcoma, epithelioma, and other forms of carcinoma are best treated, whenever possible, by early excision; and all forms of treatment hitherto tried in inoperable cancers of these kinds are uncertain and inconstant in their effects, and unreliable as to the durability of the results they produce. In the vast majority of cases they are quite without palliative influence of any kind, except possibly in relieving pain. The boundary-line between what was considered operable and inoperable cases needs revision from time to time; the tendency to extend the limits of operable cases needs, in some instances, to be restricted, and in others there may prove room for further extension. It is open to question whether some of the operations performed for relief should not be abandoned, and whether in other cases palliative operations ought not to be more often performed. Investigations into both the cause and nature of the cancer are of the first importance, as being more likely to ultimately lead to cure than any treatment at present known. With few exceptions, the attempts to cure cancer by means other than early and free operations have been hitherto almost invariably futile. Henry Morris (*British Medical Journal*, Oct. 25, 1902).

CHOREA, TREATMENT OF, WITH ARSENIC.

The treatment of chorea with arsenic is inadvisable in very acute cases with coma or paralyses, in those that have been treated for some time with small doses of arsenic, in those in which there is reason to suppose that the rheumatic process is going on in the acute form, and in cases of advanced cardiac disease. The writer gives the following principles for the administration of arsenic in the treatment of chorea: See that the tongue is clear before commencing treatment, and, if not, give a mild mercurial purge and a stomachic mixture for forty-eight hours. Put the patient on a bland and easily digested diet. Give the drug in a much diluted form and in the same dilution throughout. Do not discontinue on the first attack of vomiting, which may be due to accidental causes. Increase the dose daily. Keep the patient in bed throughout the treatment. If the vomiting persists, discontinue the drug for twenty-four hours and then give the same dose as the last. Examine the patient very carefully daily for any sign of toxic action. What must be aimed at is a form of shock action on the nerve-tissues, and this may explain why long-continued treatment with small doses fails. On discontinuing the arsenic the writer usually gives a mixture containing iron for a few days. F. M. Pope (*British Medical Journal*, Oct. 18, 1902).

EMPHYEMA, SURGICAL TREATMENT OF.

In a report based on 75 cases, observed chiefly in St. Mary's Hospital for Children, the writer mentions simple cases in which the treatment is as follows: Excision of about 1½ inches of

the seventh or eighth ribs in the posterior axillary line; light ether anæsthesia is usually employed; the purulent coagula are removed; short rubber tubing, cut partly across, doubled and held by large safety-pins, is used for drainage; abundant gauze dressing is applied and changed when saturated. If the patient's condition contra-indicates general anæsthesia, an incision into the chest may be made between two ribs under eucaine anæsthesia. Aspiration is only used to give temporary relief to patients who are in great distress from the pressure of the fluid, or temporarily to relieve the second side of a double empyema after the first side has been opened. The patients are allowed out of bed as soon as practicable, and the expansion of the lung is encouraged by forced expiration. Irrigation is only used where there is a foul-smelling discharge from necrotic lung-tissue. Secondary operations are not performed until good opportunity has been given for healing; usually three or four months should have elapsed after the primary operation, and when there has been no noticeable improvement for a month. In the secondary operation the expansion of the lung should be encouraged by incising, stripping back, and, if necessary, removing portions of the thickened pulmonary pleura. The examination of forty-four cases at long periods after operation indicates that recovery is usually complete in the simple cases, and that there is surprisingly little deformity in most of the severe cases. Dowd (Medical News, Sept. 13, 1902).

EPILEPSY, SURGICAL TREATMENT OF.

Epilepsy is the last disease to which surgical measures should be indiscriminately applied. In judiciously selected

cases, radical operations of various kinds, suited to the individual needs of each case, have given far more satisfactory results than has non-operative or medicinal treatment. Every case must be studied as a problem by itself. The only general laws applying are those regarding the removal of peripheral or local foci of irritation and the destruction of paths of conduction which convey disturbing impulses. In each case we must decide as to the operative method by which we may best meet these indications. In order to attain the best results patients should be seen early. It would be well to have every epileptic carefully studied by an accomplished surgeon, who should review the case with a view to the possibility of surgical intervention. Operation, when indicated and undertaken, should be regarded as a first measure to be followed, and often preceded, by others looking to a correction of all faults of diet, of elimination, etc. Long-continued attention to these matters is the price of eventual success.

In those cases characterized by blanching of the face, when the seizures can be warded off or mitigated by the prompt use of amyl nitrite, we may well consider the propriety of an excision of the cervical sympathetic. Roswell Park (American Medicine, Nov. 22, 1902).

EPILEPTIC, CRIMINAL RESPONSIBILITY OF THE.

Epilepsy is a symptom of some brain disease; its continual presence tends toward mental deterioration. The mental responsibility of the epileptic depends upon the extent to which mind or self-control has been impaired by the epilepsy. The legal test of insanity is

not sufficient, as mental irresponsibility is not incompatible with a knowledge of right from wrong. Epileptics are, to some degree at least, responsible for criminal acts, more especially when the epilepsy is produced by their own fault. Criminal acts of epileptics appeal to medicine rather than to law for their proper adjudication. In all cases of murder in which epilepsy is proven the law should be amended to allow of like commitment to an insane hospital rather than to the penitentiary. The mental responsibility of the epileptic in case of murder should be referred to a medical commission, appointed by the court, which again may be referred to local or county medical societies to name its members. John Punton (*Medical Record*, Nov. 15, 1902).

EXOPHTHALMIC GOITER, RADICAL CURE OF.

Cases of Graves's disease may be completely cured both by thyroidectomy and bilateral section of the sympathetic. In view of the fact that some cases are cured by internal medication, there must be a certain proportion in which the affection does not induce structural changes in any organ. No theory can be regarded as adequate without taking into consideration the functions of the thyroid gland. Three factors must be considered in the production of the disease: (a) the central nervous system; (b) the connecting fibers, sympathetic and vagus; (c) the thyroid gland. A lesion of one of these parts may produce a specific alteration in the others, the consequence of which, together with the exciting cause, may give rise to the symptoms of Graves's disease. J. A. Booth (*Journal of Nervous and Mental Disease*, Sept., 1902).

GASTRIC CONTENTS, ANALYSIS OF THE.

Qualitatively, for free acids in general with Congo-red paper; for free hydrochloric acid with Günzburg's or Boas's reagent; for lactic acid and other organic acids by the modified Uffelmann test, using the ethereal extract of the filtered gastric fluid. *Quantitatively*, for the total acidity with phenolphthalein, and for the free hydrochloric acid using either titration method with tropæolin or the more exact, though more tedious, method by successive Günzburg reactions. The organic acids may be estimated in the same solution by continuing the titration with Congo-red paper as the indicator. All of these quantitative tests may, in case of need, be made with one sample of the gastric fluid, determining the various factors in the manner described: first, the free hydrochloric acid; then the organic acids; and, finally, the total acidity. It would be well to include in this list with the other qualitative tests one for the acid salts, and this may be conveniently done by Knapp's method. Charles Platt (*American Medicine*, Nov. 8, 1902).

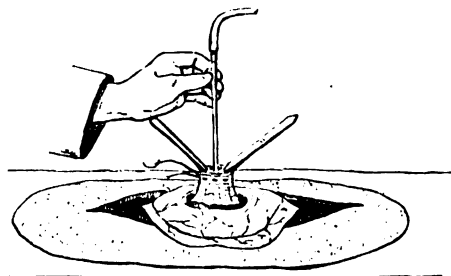
GRANULAR KIDNEY, DIETETIC TREATMENT OF.

The author points to the criteria for the determination of whether a certain diet suits diseased kidneys: (1) the general clinical appearance and course of the patient's illness; (2) the intensity of the albuminuria; (3) the examination of the excretory power of the diseased kidneys. Potassium iodide, salicylic acid, methylene-blue, and phloridzin are useful adjuncts in determining the latter condition. In order to learn what diet is most appropriate for diseased kidneys we must study the elimination of the natural products of metabolism.

In acute nephritis and in all acute exacerbations of chronic renal disease, urea, creatinin, hippuric acid, coloring matter, phosphates, inorganic sulphates, and potassium salts are imperfectly eliminated. Uric acid, xanthin bases, aromatic substances and ammonium salts, amido acids, chlorides, and carbonates are well eliminated. In the terminal stages of chronic interstitial nephritis and in the acute exacerbations of such a disease, the elimination of uric substances is similar to that in acute nephritis. In the ordinary forms of chronic Bright's disease the elimination of the normal products of metabolism is generally good. But urea, inorganic sulphates, uric acid, and foreign substances—such as lead, arsenic, iron, iodine, bromine, boric acid, and alkalis—are difficult of elimination. A male patient with chronic Bright's disease may take as much as 112 grammes of albuminoid food per day, and a female patient may take as much as 100 grammes. Animal tissues rich in nuclein, such as sweet-breads, liver, kidneys, and all other glandular organs are not to be taken. The kidneys make no difference in eliminating the albumin of meat, fish, eggs, or vegetables. A patient with Bright's disease should not drink more than $1\frac{1}{4}$ liters of water a day, except once a week, when he may drink $2\frac{1}{2}$ to 3 liters. Too much water is likely to inundate the vascular system and increase the work of the heart, so that permanent damage may be done to that organ. Every patient with chronic nephritis has also heart disease, and in many cases the latter is more serious than the former. Too great restriction of fluid, however, usually increases the percentage of albumin in the urine. C. von Noorden (*British Medical Journal*, Nov. 1, 1902).

GUNSHOT WOUNDS, THE PURSE-STRING SUTURE IN GASTRO-RHAPHY FOR.

In an experimental contribution the author states that one of the important elements of success in the treatment of gunshot and stab wounds of the stomach is time. Unnecessary time lost in finding and suturing the visceral wounds is a source of immediate danger to life which should be eliminated as far as possible by means which enable the surgeon to make a quick and correct diagnosis, and by resorting to a method of suturing which closes the wound safely and securely with the least possible delay, and which leaves it in a condition



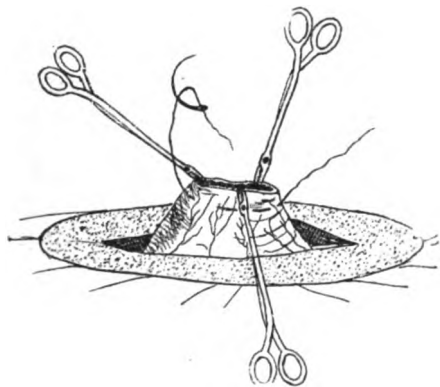
Suturing of posterior wound through anterior. Purse-string catgut suture in place. (*N. Senn.*)

(*British Medical Journal*, November 8, 1902.)

most favorable for speedy definite healing. It is well known that small penetrating wounds of the stomach often heal without operative intervention. By contraction and relative displacement of the different muscular layers of the thick wall of the stomach the tubular wound is contracted and obstructed sufficiently to prevent leakage until the canal on the peritoneal side becomes hermetically sealed by firm, plastic adhesions which prevent extravasation during the time required for the repair of the visceral wound. If in larger wounds of the stomach the same degree of occlusion can be ac-

completed by the simplest mechanical means, then such a procedure should take the place of the more time-consuming methods of suturing now in general use. This can be accomplished with the purse-string suture.

In gunshot injuries the defect in the

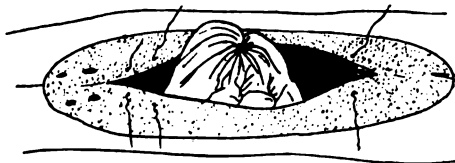


Purse-string silk suture in place. (*N. Senn.*)

(*British Medical Journal*, November 8, 1902.)

stomach-wall is circular and the wound-margins contused; hence the deep sutures could at best furnish a barrier to the escape of stomach-contents only for a short time, as their hold in the necrosed tissues would be imperfect and only of brief duration. In short, round wounds the circular suture is the one which will bring and hold together in permanent uninterrupted contact the serous surfaces in the most efficient manner. In the treatment of gunshot wounds of the stomach the principal object of suturing should be to close the perforation in such a way as to guard securely against extravasation, and at the same time approximate and hold in apposition a maximum surface of intact healthy peritoneum. This is accomplished by making a cone of the injured part of the stomach, with the apex corresponding with the wound directed toward the lumen of the organ. The

purse-string suture, applied in a manner that will be described in the experimental part of this paper, will maintain this cone until the healing of the visceral wound has advanced sufficiently to render further mechanical support superfluous. The cone on the mucous side of the stomach acts in the manner of a valve, which in itself is an effective barrier against the escape of stomach-contents, while the circular suture constitutes almost an absolute safeguard against leakage, and brings in contact the serous surfaces in the interior of the cone. For wounds of the posterior wall of the stomach the author recommends a purse-string suture of heavy durable catgut to be applied through the anterior wound. The anterior wound is closed with a purse-string suture of silk of medium size applied to the base of the cone on the serous side. It is desirable that the circular suture should cause no necrosis of the included tissues. By using an absorbable suture in closing the posterior wound in the interior of the stomach this object is gained, as only a small part of the thickness of the stomach-wall is subjected to



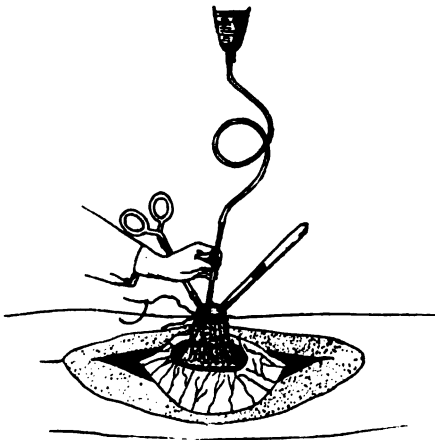
Showing result of purse-string silk suture closing anterior wound in stomach-wall. (*N. Senn.*)

(*British Medical Journal*, November 8, 1902.)

pressure, and the tension caused by the ligature is gradually lessened by softening of its material, and is entirely removed by the absorption and digestion of the ligature in less than three weeks.

The wound of the posterior wall of the stomach is found and made access-

ible by inserting through the anterior wound a grasping forceps, with which the posterior wall is seized at a point where, from the course of the bullet, the second wound is supposed to be located. Through a wound large enough to admit the index finger the greater part of the posterior wall of the stomach can be made accessible to sight and touch, and the perforation can be located and closed with the purse-string suture in a few moments. In doubtful cases inflation of the stomach should



Showing irrigation of bursa omentalis through the opening in the posterior wall of the stomach. (*N. Senn.*)

(*British Medical Journal*, November 8, 1902.)

invariably be practiced for the detection of a second and possibly a third perforation.

The experiments demonstrated the safety of the circular suture in the treatment of gunshot and other penetrating wounds of the stomach. All of the animals operated upon in this manner recovered, and the repair of the injuries as shown by the specimens are ideal. The absence of adhesions over the posterior wound and their constant presence over the anterior wound indicate that the presence of the silk liga-

ture and the needle punctures were the causes of the circumscribed plastic peritonitis which produced them. In none of the specimens could any indications be found of necrosis of any of the inverted tissues, and included in part by the circular suture.

In the course of three weeks the continuity of the mucosa at the seat of the injury was completely restored. The result of these experiments has convinced the author that the circular suture compares favorably with the methods of suturing in general use, and besides has the great advantages over them in the ease of its application and the saving of much valuable time.

Suturing of the posterior wound by partial eversion of the stomach through the anterior obviates unnecessary handling of the organ and the necessity of interfering with the vascular supply incident to exposure of the posterior wound, as is done by the methods now generally practiced. If extravasation into the retrogastric space has taken place, flushing through the posterior wound and a vertical slit in the gastrocolic ligament and gauze drainage through the latter are invariably indicated. *N. Senn* (*British Medical Journal*, Nov. 8, 1902).

HEART DISEASE, DIAGNOSIS OF.

It is important to recognize that a murmur does not necessarily indicate a lesion. Alcohol acts inimically upon the heart, and may cause a grave lesion. It is a common cause of permanent mitral regurgitation, and a heart poisoned by this toxic agent is most insecure, and exposes the patient to the risk of sudden death. The prognosis is always grave, but the danger is greatly increased when a chronic kidney lesion is associated with the heart weakness. The absence

of a history of rheumatism in a case of cardiac disease in middle life should suggest the cause next in order of frequency, which is probably syphilis. In chronic kidney disease a large, thin-walled ventricle is nearly as frequently found as an hypertrophied ventricle, and in some instances no obvious change can be detected except slight dilatation. One of the most valuable physical signs of cardiac disease complicating kidney disease is the reduplication of the first sound, which suggests the renal origin of the cardiac disturbance and indicates that compensation has begun to fail. Under these circumstances a systolic, mitral murmur can often be brought out by placing the patient on his left side. It may be difficult and even impossible to recognize slight degrees of dilatation of the heart, but, as a rule, more reliance is to be placed on careful observation of the general symptoms in addition to the usual physical signs of cardiac failure than upon percussion. Obvious cardiac weakness, as indicated by dyspnoea, dropsy, low tension, weak pulse, further weakened by exertion, with great cardiac enlargement and systolic murmur points to gross cardiac dilatation. In the absence of murmur and thrill the most important physical sign of mitral stenosis is a sharp systolic rap or snap, to be detected by palpation. This is usually best felt over the right ventricle. D. Drummond (*British Medical Journal*, Nov. 1, 1902).

IODOTHYRIN.

Iodothyrim, the active principle of the thyroid gland, is sufficiently long in commerce to permit an exact estimation of its value. The writer uses it most frequently in daily doses of 1 gramme in parenchymatous goiter, but also with good result in larger doses in the more

fibrous growths, though the cystic forms do not improve much. Most patients were well satisfied with the cosmetic results, though palpable remnants almost always remained. Inflammatory and malignant thyroid disease were not treated internally. Cretinism was influenced favorably except where the patients were adults. Obesity was improved with moderate doses, and, even though the actual weight did not always diminish, many of the subjective symptoms vanished. An interesting observation was that iron caused a quicker improvement of anæmia when given with iodothyrim. Great success has been reported in the treatment of arteriosclerosis, but the author's cases were not benefited, perhaps because the process was too advanced or the treatment not long enough. R. Roos (*Münchener medicinische Wochenschrift*, Sept. 30, 1902).

KERNIG'S SIGN.

Inability to passively extend the knee fully while the thigh is at right angles to the body—i.e., Kernig's sign—was present in over 60 per cent. of all hospital patients examined. Kernig's method is to place the patient in a sitting posture and then extend the knee. A more convenient way of applying the same test is that mentioned by Osler, in which the patient is kept recumbent and the thigh is placed at right angles to the body and then the knee is extended. A procedure having advantages over both of these methods is first to extend the knee fully, then flex the thigh on the pelvis and measure the angle at the hip. Thus, only one single angle requires to be gauged instead of two, and hyperextension of the hip (showing muscular hypotonus) can be measured. There is a great proneness

in meningitis to increased muscular tonus, which is most apparent in the muscles of the neck and in the hamstrings. This hypertonus, occurring in meningitis, is probably due to cerebellar irritation, and, conversely, cerebellar irritation is probably the explanation of Kernig's sign of meningitis. Inability to extend the knee fully with the hip at right angles to the body, or to flex the hip to a right angle while the knee is extended, occurs in many conditions besides meningitis. Among such conditions are cerebellar diseases and diseases of the upper neurons of the motor tracts; acute eye troubles; disuse of the lower limbs for some days, as in recumbency; local conditions in these limbs, as sciatica, arthritis, and contractures; old age, etc. When Kernig's sign is well developed in a recently healthy individual who has fever and none of the conditions mentioned, then it is a valuable sign of meningitis, and this is probably, at least partially, in the cerebellar region. For the purposes of greater clinical accuracy it is urged that writers upon this condition express the angle at the knee or hip in degrees, rather than merely mentioning the presence or absence of the sign. R. D. Rudolf (*American Medicine*, Nov. 8, 1902).

KIDNEYS, SURGERY OF THE.

Before resorting to a cutting operation on the kidney, especially a nephrectomy, the presence of a second functioning kidney should be established. The best and safest method for ascertaining the presence of a functioning kidney is by the aid of cryoscopy and ureteral catheterization. The function of the kidney is best determined, in the order of their importance: (*a*) by the freezing-point of the urine; (*b*) by phloridzin glycosuria; (*c*) by the quantity of

urine excreted; (*d*) by the freezing of the blood. The most reliable method of obtaining the separate urines is by the ureteral catheter. W. E. Lower (*Cleveland Medical Journal*, Oct. 15, 1902).

LAPAROTOMY DURING WAR.

The treatment of wounds on the battle-field in war and in the field hospitals is to-day and has been for centuries an unsettled question so far as wounds of the cavities of the body are concerned. In the late Civil War in this country nearly 90 per cent. of all the wounds of the abdomen were fatal, which probably constitutes 100 per cent., or nearly that, of wounds of the abdomen involving damage to any of the hollow viscera. To-day, however, with better facilities, laparotomy in war is a justifiable procedure. The writer sums this question up with the following points: Laparotomy is, even in wartime, a necessary and advisable operation, which is made possible by means of perfected organization. It is directly indicated in small-caliber wounds of the abdomen primarily,—that is, during the first twelve hours; for internal bleeding, provided the condition of the patient will stand it; for wounds of the gall-bladder and gall-passages and urinary bladder; and for fracture of the pelvis. In antero-posterior or transverse direction of the wound in the region of the small intestines and transverse colon it is also primarily indicated, even if there are no distinct signs of wounds of the small intestine. In all other directions of the wound, unless there are distinct signs of wounds of the small intestines, it becomes a secondary operation: that is, after the first twelve hours have passed; especially if there are any symptoms whatever of be-

ginning peritonitis. Late appearing or steadily progressing peritonitis, having its origin in an injury at first without symptoms, is also an indication. As an exploratory operation it is justifiable in wounds which penetrate obliquely between the flank and the navel, and in wounds where there is no opening of exit, especially if it is impossible to recognize whether internal organs are damaged or not. This might be called a relative indication. Wounds of the abdomen due to artillery projectiles require a laparotomy when they are perforating and the condition of the patient offers any hope. The chief indications against the carrying out of a laparotomy are not so much a prepared place or lack of time or impossibility of realizing asepsis as the difficulties of operating well in a limited space and the necessity of a good transporting facility after the operation. Therefore laparotomy should be done in a field hospital to which direct transportation may be had. For this reason, therefore, the following necessities must be realized in such a field hospital: It must be as near as possible to the actual fighting line; it must be provided with several ambulances and an oil-stove; a corps of competent surgeons and nurses must be at hand, and facilities must be provided for caring for the wounded after operation until so far convalescent that they may be moved with entire safety. Von Hippel (*Archiv für klinische Chirurgie*, B. lxxviii, H. 7, 1902; *Medical News*, Nov. 22, 1902).

NEPHRITIS, CHRONIC, OPERATION FOR.

During the past year there has been a great deal of interest in this subject, particularly since the appearance of Edebohls's paper (*Medical Record*, Dec.

21, 1901), in which he claimed eight complete recoveries from various forms of chronic Bright's disease at least one year after decortication of the kidney. After report of such brilliant results several operators undertook the procedure, but with less satisfactory results than Edebohls reported. It seems certain, however, that operative measures relieve or cure certain cases of nephritis, and it is a highly important question to determine just what classes of cases are suited for intervention.

From a careful study of a series of seventeen cases which he has operated on for various forms of chronic nephritis, Rovsing, Professor of Surgery in the University of Copenhagen, attempts to formulate some rules as to the proper treatment in such cases. He divides the cases into aseptic and infectious nephritis. In the aseptic cases he found that diffuse parenchymatous nephritis was not influenced by operation. A case which he classed as chronic glomerulonephritis recovered after operation, he believes, more from rest in bed than from any favorable result from the operation. In diffuse hæmorrhagic nephritis there is much danger in operating and the results are not satisfactory. In four cases of interstitial nephritis and perinephritis fibrosa occurring with uric-acid and oxalic-acid diatheses his results were satisfactory. Operation is frequently undertaken with a diagnosis of stone in the kidney in such cases and gives relief without any stone being found. The severe pains which are present in these conditions he believes indicate operation. Pain always indicates tension within the kidney capsule, it does not matter what form of nephritis exists. But the most important group of cases is that caused by some form of infection. Eight of

his cases were of this character, and the condition was only discovered after most painstaking examination. Urine obtained under aseptic precautions should be accurately examined chemically, microscopically, and bacteriologically in every case, whether we suspect that we have to deal with an infection or not. In case pathological constituents are found, cystoscopy and catheterization of the ureters should be employed. In his cases Rovsing found infections of the urine from the staphylococcus aureus, staphylococcus albus, streptococcus pyogenes, and bacterium coli. The entire clinical picture did not differ in these cases from that in the aseptic forms of nephritis. Neither was there any difference in the chemical constituents of the urine or of the appearance of the kidney when it was exposed. The results of operation in these cases were very much more satisfactory, however, than in aseptic cases, and Rovsing believes that his cases show definitely that unilateral chronic nephritis may be of infectious origin, that it may affect a greater or smaller part of the kidney, or that we may have a double partial infectious nephritis. Stripping off the kidney capsule, which gives such favorable results in cases of aseptic interstitial nephritis with perinephritis and severe pain, also has a favorable influence on inflammatory processes. In hæmorrhagic cases he believes that splitting the kidney will give favorable results in the milder infections, such as by the bacterium coli, but it is dangerous in the more virulent infections. Resection of the diseased part in case of local infectious nephritis, which entirely resembled chronic aseptic nephritis, led to cure in two of his cases.

Further investigation is needed to

prove the value of Rovsing's suggestions. Up to this time infection with ordinary pyogenic bacteria has not been considered such an important etiological factor in cases of chronic nephritis, though it might have been suspected that the cases following scarlet fever, erysipelas, and other forms of infectious disease were of this character. The careful study of this class of cases which Rovsing suggests, if carried out by competent observers, could not fail to give important results. If further study of such cases proves that we can find such definite indications for operation as are above suggested, a great advance has been made, and undoubtedly many lives will be saved. The skepticism of many surgeons as to the advisability of operating in every case of this kind seems warranted from our present knowledge, and, until definite grounds have been shown from more careful study of large series of cases by competent men, routine operation for chronic nephritis in any case cannot be considered an established surgical procedure. Editorial (Journal of the American Medical Association, Nov. 15, 1902).

OXYGEN INHALATIONS.

Inhalations of oxygen exert a very favorable effect and can even be life-saving in the dyspnoea of heart and lung disease. Nobody who has seen the improvement in the subjective symptoms will doubt the value of oxygen. Besides a good influence on pulse and respiration, there is often an increase in the amount of urine, which is of great value in diseases of the heart. The efficiency of the inhalations can be considerably increased by artificial respiration, especially in case of morphine poisoning. Good effects were also seen in eclampsia and carbon-monoxide intoxication. The

poor result obtained by some authors is due not so much to the oxygen as to its faulty method of application. Then, again, not all forms of heart or lung disease are suitable, and the case must be chosen. The effects of oxygen were also studied on animals in poisoning with various drugs. With strychnine, the convulsions developed later and were less severe and of shorter duration, and in some cases were absent altogether. Death occurred much later where the animals were kept in pure oxygen, and the same was seen also when they were poisoned with morphine. Experiments with chloroform showed that the stage of excitement was prolonged and that the narcotic as well as the fatal dose was considerably larger. E. Rogovin (*Zeitschrift für klinische Medicin*, vol. xlv, Nos. 5 and 6, 1902).

PATENT DRUGS AND THE TEMPERANCE UNIONS.

Why do not the temperance people fight the patent-medicine enemy? That is a question we would like to have any member of the W. C. T. U. or other similar organization answer. If it is admitted that the army-canteen made drunkards, surely the patent-medicine syndicates make a thousand times as many. No one is ignorant of the fact that there are many million dollars' worth of these alcoholic nostrums sold each year, and that multitudes of people are thus secretly and ignorantly turned into drunkards. Last year a great temperance reformer's portrait and testimonials were blazoned in every yellow journal in the country, extolling the virtues of a nostrum largely made up of alcohol. It was the alcohol in it that "cured" the temperance reformer. Dr. Bumgardner ("Transactions of the

Colorado State Medical Society," 1902) says that the following "patent" medicines contain the percentages given of alcohol:—

Greene's Nervura	17.2
Hood's Sarsaparilla	18.8
Schenck's Sea-weed Tonic...	19.5
Brown's Iron Bitters.....	19.7
Kaufman's Sulfur Bitters...	20.5
Paine's Celery Compound...	21.0
Burdock's Blood Bitters.....	25.2
Ayer's Sarsaparilla	26.2
Warner's Safe Tonic Bitters..	35.7
Parker's Tonic	41.6
Hostetter's Stomach Bitters..	44.3

Think of a crusade against beer, which contains only from 2 to 5 per cent. of alcohol, while allowing the free sale of "bitters" containing ten times as much! The "bitters" are stronger than whisky, far stronger than sherry, port, etc., and claret and champagne are far behind.

Is it beyond the truth to say that alcohol causes from one-third to one-half of all the criminals, defectives, insane, and dependents which the State is compelled to support? What proportion of these are the products of the patent-medicine syndicates no one can tell. It is surely large. It is only by government protection that the alcoholic-nostrum traffic is carried on. This is a profitable business for the syndicates so long as the State will care for their pauperized victims. How long will it continue to do so? *Editorial (American Medicine, Nov. 8, 1902).*

PERNICIOUS ANÆMIA.

Pernicious anæmia is essentially a hæmolytic disease, the hæmolysis being due to some as yet unknown poison comparable in its effect on the blood

and blood-organs to the action of toluylene-diamine—whether autointoxication or infection remains yet to be determined. The poison of pernicious anæmia stimulates the phagocytes of the spleen, lymph- and hæmolymp- glands, and bone-marrow to increased hæmolysis (cellular hæmolysis). Either the phagocytes are directly stimulated to increased destruction of red cells or the latter are so changed by the poison that they themselves stimulate the phagocytes. The hæmolysis of pernicious anæmia differs only in degree, not in kind, from normal hæmolysis or the pathological increase occurring in sepsis, typhoid, etc. It is not improbable that from the destruction of hæmoglobin poisonous products (histon?) may be formed which have also a hæmolytic action; a vicious circle of hæmolysis may thus be produced. No proof of this exists at present. The hæmolysis of pernicious anæmia is not confined to the portal area, as according to Hunter, but in some cases at least takes place also to a large extent in the prevertebral lymph- and hæmolymp- nodes and bone-marrow. In the majority of cases the spleen is the chief seat of the blood-destruction. No evidences of hæmolysis in the liver, stomach, and intestinal capillaries were found in the eight cases. The hæmosiderin of the liver and kidneys is carried to these organs as some soluble derivative of hæmoglobin, is removed from the circulation as hæmosiderin by the endothelium, and then transferred to the liver-cells or kidney-cells. The deposit of iron in these organs is of the nature of an excretion. In the majority of cases only slight reaction for iron is found at the sites of actual hæmolysis (spleen, lymph- and hæmolymp- glands, and bone-marrow). The greater part of the pigment in the

phagocytes of the spleen, lymph- and hæmolymp- glands does not give an iron reaction while in a diffuse form. When changed to a granular pigment, the iron reaction may usually be obtained. The change to hæmosiderin is for the greater part accomplished by the endothelium of the liver and kidneys. The varying pathological conditions found in these different cases of pernicious anæmia can be explained only by a theory of cyclical or intermittent process of hæmolysis. This theory is also borne out by the exacerbations so frequently seen clinically. The autopsy findings, in so far as evidences of hæmolysis are concerned, will depend on the relation between the time of death and the stage of the hæmolysis. The changes in the hæmolymp- glands found constantly in these eight cases were: dilatation of the blood-sinuses and evidences of increased hæmolysis, as shown by the increased number of phagocytes containing disintegrating red cells and blood-pigment. In some of the cases these changes were accompanied by great increase in size and apparent increase in the number of hæmolymp- glands; in other cases there was no hyperplasia, the only evidence of the changes present being that obtained by the microscopical examination. The changes found cannot be regarded as a specific of pernicious anæmia, since it is probable that they may be produced by other infections or toxic processes characterized by great hæmolysis. The lymphoid and megaloblastic changes in the bone-marrow do not form an essential part of the pathology of pernicious anæmia, and are to be regarded as of a compensatory nature: an increased activity of red-cell formation to supply the deficiency caused by the excessive hæmolysis. A. S. Warthin (American

Journal of the Medical Sciences, Oct., 1902).

PNEUMONIA.

The fatality of pneumonia has increased but little, if any, during the past eighty years. The prevalence of pneumonia has steadily increased during the past fifty years, and during the past twenty years this increase has been very great. For individual prophylaxis the nasal, pharyngeal, and oral cavities should be kept as free as possible from accumulations of mucus, and when it has been demonstrated that such secretion contains the pneumococcus such efforts should be especially well directed and maintained. In addition, care should be taken not to become chilled when overtired. The individual should, as far as practicable, keep out of range of the extruded pneumococcus-laden secretions of infected individuals. The sputum and other secretions of the respiratory surfaces of pneumonic patients, or of other infected individuals, should be destroyed before it has been allowed to become dry. Such persons should cough and sneeze into a moistened cloth. For communal prophylaxis the information and advice above given should be kept before physicians, with the request that, if they can consistently do so, they give it as their instructions to their patients. That there may be some comparatively simple means by which pneumonia may be prevented, but that the fundamental information on which prophylactic rules may be formulated is not yet at hand; therefore it should be the province and duty of public health officers to seek assiduously for such knowledge, and as a preliminary step in this direction it is suggested that pneumonia be placed on the list of notifiable diseases, and that the envi-

ronment of pneumonic patients be carefully noted and the results analyzed. E. F. Wells (Journal of the American Medical Association, Nov. 15, 1902).

PNEUMONIA, CREOSOTE IN.

A large number of circulars were sent by the writer asking the following questions of those who had used creosote or carbonate of creosote in the treatment of pneumonia: 1. Do you believe creosote ever aborts pneumonia? 2. Do you believe the majority of cases are mitigated by it? 3. Have you ever found cases which, having plenty of time, were entirely uninfluenced by it? In response he had over 70 letters and cards and 5 verbal statements, a large proportion of which are tabulated. For the first question 37 physicians, reporting 762 cases, said "Yes"; 15, reporting 187, said "No"; and 19, reporting 177, failed to answer. Therefore, of those reporting, a little over two-thirds admitted the abortive effects of creosote. To the second question, 57, reporting 1022 cases, answered "Yes"; 2, reporting 10 cases, said "No"; and the remainder failed to answer. To the third, 23 said "Yes," 31 "No," and 10 failed to answer. The answers showed that a large percentage of cases of pneumonia can be cut short or aborted; almost all the rest are mitigated, and the remainder, or a very small percentage, are not affected by the remedy. Among the answers was one from W. H. Thompson giving his experience in the Roosevelt Hospital, which show a striking contrast in the mortality with and without its employment. The use of carbonate of creosote or creosote in the treatment of pulmonary affections is one of the greatest recent life-saving discoveries. I. L. Van Zandt (Medical Record, Oct. 18, 1902).

PROLAPSUS UTERI.

Referring to the operations for prolapsus uteri, the writer includes those which attempt to tie up the displaced portion: ventrofixation; shortening of round ligaments. Those which remove hypertrophic portions, and indirectly by cicatrization take bearing points: amputation of cervix; elytrorrhaphies (mesial and lateral). Those which hinder the eversion of vaginal walls: partial union of walls; vaginal implantation. Those which repair and extend a torn supporting part: perineorrhaphies. Those which aim at removing the displaced part so far as is possible, and in uniting the supporting part where the resection has taken place: vaginal resection and hysterectomy. The most useful operations are the combined cervical amputation, elytrorrhaphy and perineorrhaphy in medium cases, and ventrofixation in selected cases. In advanced cases in widows vaginal resection and hysterectomy has to be considered. D. B. Hart (British Medical Journal, Oct. 11, 1902).

PYURIA, DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEYS ACCOMPANIED BY.

Given a case of pyuria, the seat and the nature of the lesion should be determined by all the methods at our command before an exploratory incision or an operative procedure is attempted. These methods include, in addition to the general and physical examination: Examination of the urine, including cryoscopy and the phloridzin test; cystoscopy; ureteral catheterization; segregation of the urine from each kidney by appliances introduced into the bladder, and not into the ureters; radioscopy. The examination of the patient's urine in such cases should be considered as

of the utmost importance and should be intrusted only to men thoroughly trained in this line of work, particularly in the microscopy of urinary sediments. It is possible, by a careful study of the pus, blood, casts, and particularly by a study of the epithelial elements of the urinary sediment, to determine the nature of the lesions and the seat thereof in the urinary tract. A renal lesion of suppurative character being found, it becomes necessary to locate it in one or the other kidney, or to determine whether the opposite kidney is present and healthy. This may be done with the aid of cystoscopy, ureteral catheterization, combined with the phloridzin test, and followed by the examination of the urines from each kidney; with the aid of the Röntgen rays, and, if need be, in case of doubt, of exploratory incision. An omission of one or more links in the chain of methods of examination here enumerated may give rise to grave errors in diagnosis, and nephrectomy is never justified when we are not in the position to say that the opposite kidney is present and in good condition on the basis of the tests herein mentioned. Ramon Guiteras (Medical Record, Nov. 8, 1902).

RENAL INSUFFICIENCY IN THE TROPICS.

Whether the systemic disturbance causing the usual disorders peculiar to the tropics be uric acid or faulty metabolism, or both, the kidneys in the tropics do not perform their share of the work of emunction. The reason for this renal insufficiency in the tropics is that the tide of water (the necessary solvent vehicle for urinary solids) pours through the skin so rapidly that the volume of circulation is so correspondingly diminished that waste-products are stranded

in those tissues most favored by the weakened flushing force for stasis. The remedy is the internal use of water as fast or faster than it is wasted by the skin in order to force the kidneys to work and to maintain normal volume in circulation, and the external use of water and sun-baths systematically for their toughening and contractile influence on the skin. J. C. Minor (Journal of the American Medical Association, Nov. 15, 1902).

RETRODISPLACEMENTS, SURGERY OF.

The actual and important clinical division is in movable and adherent retrodisplacements. Between these there exists the very wide difference that the latter are complicated with inflammatory lesions of the tubes, ovaries, and peritoneum. And, indeed, most of the symptoms referred to retrodisplacements are due to these complications. The element of infection determines the presence or absence of adhesions. A heavy subinvolted uterus associated with a break in the pelvic floor is perhaps the most frequent etiological factor. Emmet has almost invariably cured all of his cases of movable retroversion following injuries sustained in labor by plastic operations. In nulliparous women it is possible to cure a small number by the pessary. Kelly says that there have been devised over fifty different operations for the cure of distortions and malposition of the uterus which are other than plastic. The various procedures should be based upon (a) the cause of the particular displacement; (b) upon a proper estimate of its results; (c) its complications. Whether or not there be adhesions, if the abdomen be opened the uterus may be secured in position either

by retrosuspension or intraperitoneal shortening of the round ligaments. When it is not necessary to go into the abdomen, the Alexander operation is the one of choice. This latter operation has an important field in uncomplicated cases, in the young, unmarried, or nulliparous when the pessary has failed to cure. (1) It saves embarrassment and discomfort of long, tedious, unpleasant, and oftentimes unprofitable local and mechanical treatment; (2) it does not in any way interfere with subsequent pregnancy, the ligaments undergoing evolution and involution with the uterus; (3) it avoids opening the peritoneal cavity; (4) it does not create any peritoneal adhesions, and parturition following it is smooth and undisturbed; (5) it gives anatomical and symptomatic cure in a very large majority of cases. Alexander's operation has been opposed on the ground that the uterus, when normally anteverted, lies well anterior to the external abdominal ring, through which the round ligament emerges to the attachment. The round ligament is none the less, however, capable of supporting the uterus forward. The ligament is sometimes difficult to find, but it may be found in three ways: (1) through the external abdominal ring; (2) by puncture through the roof of the inguinal canal (Alquie) or over the site of the inguinal ring (Kellogg); (3) or by laying open the entire canal, as practiced by Edebohls. Intraperitoneal shortening may be practiced either by looping the ligaments after scarification and immediately ligating them in this position or by cutting them off close to the cornua and passing the cut ends through the broad ligaments and making them fast to the posterior aspect of the organ. Vaginal shortening of the ligaments is an operation of

German origin. Ventrosuspension is indicated in those cases where abdominal section must be performed in doing conservative operations upon the adnexa. W. D. Haggard (*American Gyn.*, Sept., 1902).

SCARLET FEVER, SERUM-TREATMENT OF.

Believing that the streptococci of scarlet fever were not like other streptococci, since the Marmorek serum has proved useless in the treatment of scarlet fever, Dr. Paul Moser (*Wiener klinische Wochenschrift*, Oct. 9, 1902) inoculated horses with streptococci from the heart's blood of patients dead of scarlet fever, which he had grown successfully upon bouillon. The serum obtained from the blood of these horses was used for treating children with scarlet fever, in injections of from 30 to 180 cubic centimeters, but seldom repeated. The larger dose is more efficacious, and all injections should be made as soon as possible. Of his 81 cases reported, 5 were mild in character, 17 were moderately severe, 28 were serious, and 34 were grave. Of the last, 15 died, while but 1 death occurred among the serious cases. The death-rate was but 9 per cent., in spite of the large number of very grave cases. For all the other Vienna hospitals during the same year the death-rate was over 13 per cent. Following the injection marked amelioration in the general condition occurred; the rash often failed to develop further; nervous, gastrointestinal, and nose and throat symptoms disappeared in twenty-four hours. The pulse, respiration, and temperature frequently fell instead of rising with the appearance of the eruption. Besides, signs of cardiac weakness rarely developed. No marked difference was

noted, however, in the occurrence of nephritis and otitis media. But patients treated with the serum had short attacks, with early convalescence. In his earlier experiments Moser found streptococci in 63 out of 99 bodies of children dead from scarlet fever. The description of the excellent results achieved by his serum in over a year's time was read at the recent meeting of the German Naturalists and Physicians, at Carlsbad, in September last. Dr. Moser has been in charge of the infectious diseases department of the St. Anna Hospital for Children, Vienna, for five years, having assisted the late Dr. von Widerhofer for some time before his death. The Austrian Government has appointed a large sum in order that this serum may be prepared and distributed in large quantities. Editorial (*Philadelphia Medical Journal*, Nov. 8, 1902).

SCURVY.

There is no condition of the blood characteristic of scurvy.

Gingivitis is not a constant symptom of scurvy.

In certain scurvy cases there is a condition of the blood similar to that existing in pernicious anæmia, though any definite connection between the two diseases is not demonstrated.

The most important element in the causation of scurvy appears to be a diet lacking in vegetables or their ingredients. Tainted food may produce it, and an exclusive diet of perfectly fresh meat and blood may prevent it.

The infectious theory is gaining a strong foothold among the authorities, although no definite micro-organism is acknowledged. J. E. Talley (*Journal of the American Medical Association*, Nov. 1, 1902).

SEPTICÆMIA.

Instead of curetting, the writer recommends the use of combined alkaline solutions at a temperature above 100° F. and a strict avoidance of bichloride, carbolic acid, formaldehyde, or any antiseptic of an acid reaction or astringent nature, which would coagulate the fibrin and albumin of the blood. He advises the gentle removal of whatever fragments are lying in the uterine cavity by means of forceps, care being taken not to tear from the walls any adherent piece; the gentle flushing of the uterine cavity with alkaline solution (110° F.), the reservoir containing the fluid being not more than two feet above the level of the hips. The flushing should be carried out every two hours with 1 quart of solution. H. Plympton (Boston Medical and Surgical Journal, Oct. 30, 1902).

SODIUM GLYCOCHOLATE IN DISEASES OF THE LIVER.

Injected even in small doses into the blood-stream, this produces a widespread disintegration of red blood-corpuscles, with a liberation of hæmoglobin; brought into contact with the cells of the body, they cause their disintegration. They have a cholagogue action. In fact, they are the only substances known to possess the power and actually cause an increased flow of bile, both solid and liquid constituents being increased. The presence of bile in the blood acts as a stimulus to the liver-cells. In small doses they aid coagulation. In large doses they arrest coagulation. In very small doses they act as vasodilators. In large doses they act as vasoconstrictors. They reduce motor and sensory irritability. They slow the heart-beat by direct action on the heart-muscles and the cardiac ganglia. Keown

(Journal of the American Medical Association, Aug. 16, 1902).

SUPPURATIVE TUBAL AND OVARIAN DISEASE.

The writer emphasizes the following points:—

Gonorrhœa is by far the most frequent cause of suppurative tubal and ovarian disease.

Vaginal puncture is dangerous and unsurgical.

The mass should always be removed through an abdominal incision.

Plain sterile water should be used in all abdominal operations.

The use of mercury, permanganate, or any antiseptic, except alcohol, is unnecessary in the preparation of the operator or assistants, as cleanliness is the great point, and may be obtained by soap, water, and brush, using many changes of water and taking many minutes to scrub.

Silk should be used in all tying within the abdominal cavity.

An absolute differential diagnosis previous to operation is in the majority of cases impossible.

The cases in which drainage is used usually do better than those not drained.

The absolute avoidance of morphine, or any form of opium, before or after operation.

The objections to operations are not founded on fact and there is not enough consensus of opinion that these suppurative conditions should always be operated upon. J. J. G. Williams (Philadelphia Medical Journal, Nov. 8, 1902).

SUPRARENAL BODIES, THE ANTITOXIC POWERS OF THE.

The property of the suprarenal bodies to raise the blood-pressure and constrict the vessels is now well known. In addi-

tion to this function, Oppenheim (Paris Thesis, No. 231, 1901; *Gazette Hebdomadaire de Médecine et de Chirurgie*, June 22, 1902) claims to have demonstrated an antitoxic property in these bodies. This antitoxic function is manifested not only toward the toxic substances produced by the normal organism in its cycle of changes, but also toward micro-organismal and other poisonous substances introduced from without. Oppenheim has found that extract of suprarenal body mixed with different toxic substances or injected into animals at the same time that these substances are injected increases, in a great number of cases, the resistance of the organism to the intoxication. The most striking results were obtained with phosphorus and with the poisons from human urine. The removal of a portion of the suprarenal tissue, notably unilateral decapsulation, does not determine a diminution of the organic resistance to the infections and the intoxications. On the contrary, in diphtheria infection and phosphorus poisoning partially decapsulated animals resist the infection better than the controls. This fact is explained by the often very great hypertrophy and the secretory hyperactivity of the gland not disturbed. This gives a new element of demonstration in favor of the antitoxic power of the suprarenal bodies. This important rôle in the defense of the organism is still further demonstrated by the constancy of capsular lesions in the acute infections and intoxications. In a series of studies made with experimental infections, such as diphtheria, tetanus, pneumobacillus, and anthrax, upon the acute infectious diseases, such as diphtheria, pneumonia, small-pox, typhoid fever, and streptococcus, and in experimental intoxications, such

as arsenic, phosphorus, and mercury, the author, with Loeper, has demonstrated lesions that appear to vary more with the duration of the disease and the virulence of the toxic agents than with the nature of the toxic agent itself. The clinical study of the relations of the acute infections and suprarenal lesions gives a final proof of the rôle that these organs play in the protection of the organism. It shows that there is a syndrome of acute intoxication due to the suppression of the functions of the suprarenal bodies. This syndrome of acute capsular insufficiency, in which the phenomena of depression of the nervous system predominate, is likely to develop suddenly in subjects in whom the suprarenal bodies were formerly healthy. It acts, in the cases so far observed, as a special infection of a still undetermined nature which has realized at the time the rapid destruction of the bodies by the mechanism of hæmorrhage and the introduction into the organism of poisons causing it. More often the symptoms of acute capsular insufficiency appear in the subjects of old lesions of the suprarenal bodies, which up to the time of development of the insufficiency have been latent or which have given rise to the more or less complete picture of Addison's disease. It is not impossible that in certain of these cases the deleterious substances that determine the accidents are formed in the organism by a mechanism of autointoxication. But most frequently, as it seems, it is an intercurrent infection or intoxication that introduces the deleterious substances into the economy. A suprarenal lesion already existing acts by rendering the complete destruction of the poisons impossible. Thus, a disease which in a normal subject would be benign may

be transformed into a rapidly fatal disease. (Philadelphia Medical Journal, Nov. 8, 1902.)

SUPRARENAL INSUFFICIENCY, ACUTE.

The writer describes the symptoms of acute "suprarenalitis" as pains in the lumbar and abdominal regions, anorexia, vomiting, diarrhoea, depression, and prostration, with hypothermia, small pulse, and tendency to collapse, or else agitation with delirium and fever. These different symptoms are grouped in various ways, but all constitute an acute syndrome indicating a rapid auto-intoxication. Chronic "suprarenalitis" may first reveal itself during some intercurrent acute infectious disease, fanning the embers into a blaze. It resembles the acute nephritis liable to complicate scarlet fever. The syndrome of uræmia in the latter case is familiar, but that caused by insufficiency of the suprarenals is not yet fully established. The fatal progress of the case is due to the acute suprarenal insufficiency, and not to the intercurrent infection, which is merely the occasion for it in many cases. E. Sargent (Presse Médicale, No. 79; Jour. Amer. Med. Assoc., Nov. 1, 1902).

TETANUS, TREATMENT OF.

The author speaks of the older medical and surgical treatment of this disease, and then considers seriatim the modern methods. Serum-therapy is discussed as to: 1. Its preventive value. This, he says, is well established in spite of 5 cases of apparent failure reported by as many observers. He has used it in 20 cases of wounds soiled by earth or dust, and no case of tetanus developed. An injection of 10 cubic centimeters should be given on the first, third, and

tenth days. If the wound does not heal promptly, a fourth injection should be given on the fifteenth day. 2. The curative value of serum. This is considered under four heads as regards methods of administration: (a) Subcutaneous. Of 373 collected cases thus treated, there were 145 deaths: 39 per cent. In 141 of these cases the incubation period was less than 10 days and the deaths were 57 per cent.: incubation 10 days or over, 118 cases; deaths, 20 per cent.: incubation undetermined, 114 cases; deaths, 36 per cent. Some forms of tetanus were especially resistant to the serum, as shown by 15 cases of tetanus neonatorum with 11 deaths, and 15 cases of puerperal tetanus with 12 deaths. A point emphasized is that no danger is incurred by the use of serum, and enormous doses may be used with impunity. In one case 1800 cubic centimeters were employed. (b) Intravenous. Of 31 patients treated by this method 18 died: a mortality of 42 per cent. This is slightly higher than by the subcutaneous method, but the method was probably reserved for the most serious cases. (c) Intracerebral. This has been followed by serious results, and is not to be recommended. (d) Subarachnoid. This is inferior to a and b in results and has an element of danger. The carbolic-acid treatment of Baccelli is discussed at length, and the statement made that animal experiments show that it is not a specific remedy against tetanus. Clinically 80 cases have been observed with but 8 deaths. Most of these patients were from Italy, which gives a low mortality by all methods. Other series of cases show greater mortality. The treatment is regarded as a good symptomatic one, but not a specific. The author concludes that preventive serum-therapy possesses a

sure action, and that if it were used systematically in all suspicious wounds tetanus would disappear the same as has variola under the use of vaccine. When the disease begins we are still at a disadvantage, but serum-therapy is the best treatment. The use of chloral and carbolic acid is of value in controlling spasms, and should be considered an auxiliary method. It is well to employ these at the same time that the serum is given, and in view of the toxicity of the acid the preference should be given to chloral. Vallas (*Gazette Hebdomadaire de Médecine et de Chirurgie*, Oct. 5, 1902; *American Medicine*, Nov. 8, 1902).

TUBERCULOSIS, ETIOLOGY OF.

Hereditary tuberculosis is so rare as to be a negligible factor. It is not proved that tuberculous patients hand down to their children tissues which are especially receptive to tuberculosis. Tuberculosis always results from a pre-existing case of the disease, and the bacilli are conveyed by the mouth-spray, by the expectoration or other discharge, and by means of foodstuffs, more especially milk. It is improbable that infection often takes place from air respired through the nasal passages. The tubercle bacilli, whether the infection is through the air or the food, enter the new host by the mouth in the majority of cases. The bacilli may then be destroyed by the natural defensive actions of the body in the following ways:—

(a) By direct inhalation into the alveoli of the lungs.

(b) By being brought in contact with the mucous membranes of the parts common to the respiratory and alimentary tracts, such as the tonsils, and then by passing through these mucous membranes, either with or without local

changes, to the lymphatic vessels, and so to the cervical, tracheal, bronchial, or other glands. From these glands the bacilli may pass either (1) by direct continuity; (2) by the lymphatic vessels to neighboring glands, as, for example, from the cervical group to the mediastinal; (3) by some mechanism against the lymph-stream, as, for example, from a tracheal gland to the apex of the lung; or (4) by the blood-stream, owing to direct ulceration into a blood-vessel.

(c) By being carried to the stomach and intestines. The bacilli, if not destroyed in these situations, may then pass into the lymph-stream, and so cause tuberculosis of the mesenteric gland or of more distant parts.

The spread of tuberculosis within the human body is not by the blood-stream, save when generalized miliary tuberculosis is found. The spread of tuberculosis within the human body is by the lymphatic vessels and lymphatic lacunæ. This fact may explain why the lungs are chiefly affected in the adult, and the bronchial glands chiefly affected in the young child, as the age at which the change begins corresponds with the age at which a considerable alteration in the lymphatic paths in the neighborhood occurs, owing to the involution of the thymus. Arthur Latham (*Edinburgh Medical Journal*, Nov., 1902).

TUBERCULOSIS OF THE MYOCARDIUM.

Tuberculosis of the myocardium is more common than has been supposed. At present writing not more than three pathological varieties are justifiable. It is practically always secondary to a lesion in some other situation, most commonly in the bronchial or mediastinal glands. Transmission to the heart oc-

curs most frequently by the lymph-stream, less often by the blood-current, and more rarely still as the result of extension by continuity. Myocardial tuberculosis in a considerable proportion of cases is secondary to pericardial tuberculosis and the latter to disease of the bronchial glands. The symptomatology is extremely variable and indefinite. Diagnosis is excessively difficult, but is probably possible with great care and under favorable circumstances. In addition to the suspicious features that may be present the existence of generalized tuberculosis and pericardial tuberculosis, one or both, are essential to a diagnosis. J. M. Anders (*Journal of the American Medical Association*, Nov. 1, 1902).

TUBERCULOSIS, PULMONARY.

In the dietetic treatment proteids have a much greater effect in inducing the arrest of tuberculous processes than either fat or carbohydrate. The advantages of a diet rich in proteid and only slightly increased in fat and carbohydrates are: Because of the absence of the necessity of prescribing large amounts of the last two substances, which are disliked by the consumptive; because proteid can be given in large quantities in liquid form, as milk, to which any of the numerous casein preparations may be added; because it is easier to give proteid in large quantity; because the body-weight is not upset. Under a proteid diet the absorption of the proteid from the intestines is normal or but slightly decreased, while the absorption of fat is also normal. This good absorption renders it possible to overfeed a patient. N. D. Bardswell and J. E. Chapman (*British Medical Journal*, Nov. 1, 1902).

TUBERCULOSIS, PULMONARY, INOPERABLE.

The success with which simple abscess of the lung and abscess following acute gangrene have been treated has perhaps aroused the interest manifested in recent years in the treatment of tuberculous foci and abscesses. Several surgeons have reported successful results after excision of tuberculous areas, drainage of tuberculous abscesses, resection of ribs over a considerable area to allow collapse of the chest-wall to aid in closing large cavities left by tuberculous disease, and the injection of nitrogen-gas. Probably surgeons have been encouraged by these favorable reports to perform many operations which have not resulted so brilliantly as in those cases which have come into more general notice, for successes are always sooner reported than failures. To determine the possibility of operative intervention in pulmonary tuberculosis, Whitacre (*Journal of the American Medical Association*, Sept. 27, 1902), of Cincinnati, has studied carefully the autopsy material in 978 cases of pulmonary tuberculosis treated in the Cincinnati Branch Hospital during five years. He finds that excision of tuberculous areas is excluded from consideration because of involvement of at least four lobes in nearly 75 per cent. of the cases which he examined, and that in 98 per cent. of the cases operation would be inadvisable because of extensive involvement. Even in the remaining 2 per cent. of cases in which excision might be performed, it is questionable whether more patients would not be cured by climatic, dietetic, and general hygienic measures. As to the drainage of tuberculous abscesses, Whitacre finds that the vast majority are located in the apex or upper lobes of

the lungs, sites most favorable for drainage through the bronchus, and in 978 cases he did not find a single cavity in which operation would have promised sufficient relief to make operation justifiable. Excision of a number of ribs is attended with a good deal of shock, and when such an operation would prove helpful the patients are usually too weak to withstand a procedure involving such risk. The value of these studies will be apparent to anyone sufficiently interested to read Whitacre's article. As a rule, surgeons are not inclined to undertake tedious investigations which discourage operative intervention and hence tend to deprive them of the means of livelihood. Such honest work is greatly needed, however, for it is certainly as important that the operating surgeon should know in what cases it is advisable to withhold the knife as to know when operation is indicated. The method of compression by nitrogen-gas Whitacre considers the only procedure which is safe and has been followed by favorable results, but we doubt if this gives a larger percentage of cures than climatic and hygienic treatment. From Whitacre's studies, which will, we believe, be confirmed if others will take pains to examine the lungs in cases of pulmonary tuberculosis, post-mortem operation seems definitely contra-indicated in most cases, and the favorable results which have been reported must be considered more as fortunate accidents than the result of good surgical judgment. Martin B. Tinker (*American Medicine*, Nov. 15, 1902).

TYPHOID FEVER IN CHILDREN.

Out of 90 specimens of urine, representing 15 cases of typhoid fever, 17 specimens, representing 5 cases, showed

the presence of the typical typhoid bacillus. In 18 specimens varieties of the bacillus coli and of the typhoid germs were found. In the greater number of cases the typhoid organisms were first found from the end of the third week to the middle of the fourth week of the disease. They may, however, make their appearance as early as the end of the second week, or as late as the fortieth or forty-fifth day. The typhoid bacillus, when accompanied by other species, especially the staphylococcus pyogenes aureus, may occur in such small numbers as easily to escape notice. As pointed out by Horton-Smith and Petrusky, the typhoid bacillus may be found in the urine in such large numbers as to render the urine turbid. The largest number of typhoid bacilli in the urine is more likely to be found just after the height of the fever, or at the beginning of the defervescence, from which they usually decrease in numbers as long as the examinations continue. In the cases examined by the author, in which the bacillus of typhoid was found, albumin was always present, frequently in large amount. In the case that contained the typical typhoid bacillus pus was almost invariably demonstrable, even though in many cases no pus-microbes were present. The results here presented, as well as those of other investigators, demand that a systematic bacteriological examination and centrifugalization of all urines from typhoid cases should be made; when the typhoid bacillus is detected by this means, some measures of prophylaxis should be taken against infection. I. A. Abt (*Medical News*, Nov. 1, 1902).

UTERUS, POSITION OF THE.

Many physicians mistake dislocations of the uterus for a disease, whereas dis-

location of the uterus is the result of disease. The chief cause of uterine dislocation is: (a) myometritis; (b) peritoneal exudates; (c) adjacent organs and structures. Replacing a dislocated uterus does not cure the disease. To cure dislocations the myometritis, the peritoneal exudate, or the pathogenic adjacent structure must be cured. Dislocations of the uterus are numerous, as 75 per cent. of clinical patients have myometritis and perhaps 50 per cent. have pelvic peritoneal exudates. A uterus is in its normal position when it is perfectly mobile, like the testicle. All uteri with myometritis or pelvic peritoneal exudates or immobile pathological adjacent structures are dislocated—fixed because it is not perfectly mobile. The author presents some classified divisions of uterine position in the following paragraphs. We have two kinds of uterine positions, viz.: (a) the physiological position, perfectly mobile; (b) a pathological position, permanently fixed.

(A) *Physiological Position.* — The uterus is the most mobile of all viscera. There is antelexion and anteversion, both mobile (like the testicle, enteron). It is lodged between bladder and rectum and lies parallel to standing plane (antelexion). It is influenced by the condition of adjacent viscera and intra-abdominal pressure. In pueritas, pubertas, menstruation, gestation, puerperium, and senescence the uterus in each assumes different positions. There is also retrodeviation (retroposition), retroflexion, latero-torsion, deviation, latero-deviation, and depression. A typical position is in the middle of the lesser pelvis with external os on a level with proximal border of symphysis pubis and on a level with ischial spines (planum interspinosum). The position

of the uterus is influenced by age relations, circulation, intra-abdominal pressure, condition of adjacent organs, bony pelvis, function, and respiration. The fundus is on a line drawn from the pubic crest to the third or fourth sacral vertebra. It lies midway between the plane of the pelvic inlet and outlet, in the center of the cavum osseum pelvis minor. The uterus has a wide range of position within the zone of health.

(B) *Pathological Position.* — Permanently fixed: 1. Retroposition (retrodeviation). 2. Anteversion (antedeviation). 3. Latero-position (latero-deviation). 4. Flexions: (a) antelexion; (b) retroflexion. 5. Version: (a) anteversion; (b) retroversion. 6. Elevation. 7. Depressions. 8. (a) dextrotorsio; (b) sinistrotorsio. 9. All the above positions of the uterus can also be assumed physiologically. 10. Fixations are the distinction between mobile, physiological, and fixed pathological uterine positions.

I. Holotomy (Relation to the General Body).—The uterus is the most mobile of viscera; its mobility resembles that of the testicle, enteron, or sigmoid. Practically the uterus has no definite single position. It changes according to the direction and force of intra-abdominal pressure. The uterus moves with every step and every respiration. Its position varies with the filling and emptying of the bladder, rectum, colon, and enteron. The normal uterus is continually making excursions about the pelvic and abdominal cavities and returning without losing its integrity. A normal uterus with the woman standing, bladder and rectum empty, is horizontal to the earth's plane.

The normal uterus moves within a wide range without experiencing anatomical or physiological loss of integ-

rity. All the numerous movements of the uterus within the health zone are normal. However many normal positions of the uterus arise, there can be but one *typical normal position*, as noted by Waldeyer.

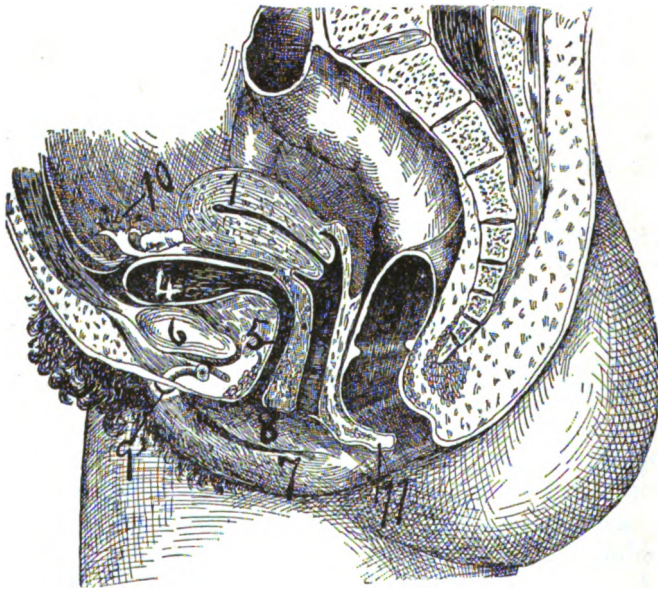
As regards the general body (holotopy), the movements or shifting of the entire uterus from its typical position, there are a number of technical terms in use which facilitate the description

(*d*) Proximal deviations are recorded as uterine elevation.

(*e*) Distalward deviations are recognized as uterine depression.

The above positions (*a, b, c, d, e*) may concern normal positions of the entire uterus within the zone of health.

All the holotopic and idiotopic variations of uterine positions are normal—*i.e.*, anatomical and physiological to a certain grade. As a whole (holotopic),



An illustration of one of the normal positions of the uterus. 1, uterus; 4, bladder; 5, urethra; 6, symphysis pubis; 7, labia; 8, nympha; 9, clitoris; 10, oviducal pavilion; 11, perineal body.

If the uterus were fixed in this position it would be a dislocated uterus. In the planning of the illustration a suggestion of Hoffman was employed. (*Byron Robinson.*)

(*St. Paul Medical Journal, October, 1902.*)

of both typical and normal uterine positions; as:—

(*a*) Dorsal deviations of the uterus are known as retrodeviation or retro-position.

(*b*) Ventral deviations are termed antedeviation or anteposition.

Lateral deviations are designated as deviation or latero-position.

and on its axes longitudinal, transverse, and dorso-ventral (idiotopic), the uterus must be mobile to be in either its normal or typical position. Fixation of the uterus is dislocation: *i.e.*, pathological. The grounds for assuming the typical and normal position for the uterus is the following, viz.: 1. Such position began in the foetus indicating anteflex-

ion and anteversion. 2. The pregnant uterus assumes these positions while it remains in the lesser pelvis. 3. The puerperal uterus assumes the designated normal or typical position rapidly subsequently to parturition. 4. The typical or normal position is as assumed by healthy multipara and almost the same when dead. 5. The uterus in the typical or normal position lies in the medial plane in the center of the pelvis and accommodates itself to adjacent structures. A certain degree of mobility, especially of the corpus in contradistinction to the cervix, exists. The corpus in all normal positions is so mobile that it alters its position from filling and emptying of the bladder, sigmoid, colon, the rise and fall of the diaphragm. The writer has seen the fecal-filled rectum elevate the uterus to the pelvic inlet. Not infrequently the junction of the cervix and corpus acts like a joint—the corpus moves on the cervix like a pivot. Torsion toward the right is a rare affair.

II. Skeletopy (Relation to Osseous Skeleton).—1. The uterus lies in the middle of the pelvic minor. 2. The cervix lies in the pelvic axis. 3. The os externum corresponds with the level of the (a) second or third coccygeal vertebra; (b) on a level of the proximal border of the symphysis pubis; (c) the external os is on a level with the planum interspinosum: i.e., the plane between the spinæ ischiadica. 4. The internal os lies about in the center of the lesser pelvis. 5. In the normal anteflexio-anteversio uteri the longitudinal axis of the corpus lies in a plane extending from the proximal border of the symphysis pubis to the fourth sacral vertebra. 6. The uterus lies about midway between and in the centers of the planes of the pelvic inlet and outlet

without being in contact with either. 7. The most proximal point of the uterus lies on a plane which cuts the fourth sacral vertebra. 8. The most distal end of the uterus (ventral cervical lip) lies in a plane which cuts the fourth coccygeal vertebra and the proximal third of the symphysis pubis.

III. Syntopy (Relation to Adjacent Viscera).—The syntopic relations of the uterus may be considered under three heads, viz.: (a) the organs which are divided from the uterus by its serous covering; (b) those organs separated from the uterus by connective tissue; (c) the organs bound to it by organic connections. These three relations are important in a physiological and pathological signification: (a) *Organs resting against the uterine serosa*: on the dorsal, fundal, and ventral surfaces of the corpus the peritoneum lies in contact. The excavatio recto-uterina lies between uterus and rectum. This is known as the posterior space of Douglas. Rarely the colon (rectum and sigmoid) lies against the uterus. On the fundus rests loops of the enteron or sigmoid. The ventral surface of the corpus is divided from the bladder by the excavatio vesico-uterina (anterior Douglas space) and the uterus rests on the bladder. Enteronic loops do not lie between the bladder and the uterus. The fundus uteri usually extends ventrally to the plica vesicalis transversa. The younger the individual, the more distal passes the peritoneum on the corpus. Parturition induces the point of peritoneal reflection to pass proximalward on the corpus. (b) *The organs separated from the uterus by connective-tissue layers*: The peritoneum, especially on the cervix, is separated from the cervix by a larger, loose, connective tissue; practically, except the lateral borders, the peri-

toneum lies in contact with the corpus, but not with the cervix. The ureter is separated from the middle of the lateral border of the cervix by one-half inch of connective tissue. The uterine segment of the utero-ovarian artery is separated from the lateral uterine border by one-fourth to one-half inch of loose cellular tissue. (c) *Organs bound to the uterus by organic connection:* In syntopic relations the most important organic connection is that of the uterus and ureter. The ureter crosses the middle of the lateral border of the cervix obliquely about two-thirds inch distant, bound to the cervix by connective tissue. The connection of the ureter to the lateral border of the cervix is loose, and can force the distal arterio-ureteral crossing about one and one-half inches lateralward and secure ample space to ligate the cervical loop of the author. The ureter crosses the lateral cervical border at an acute angle, and approaches nearer to the ventral border of the cervix on its course to the bladder, lying in loose cellular tissue and venous plexuses. The peritoneum is bound to the uterus by strong connective tissue. The bladder is connected to the ventral surface of the uterus by loose connective tissue. The uterine artery is connected to the lateral uterine border by strong connective tissue. The vagina is strongly bound to the cervix and the ureter. They have organic connection; in fact, the vagina and uterus arise from the same pronephric ducts (Muller's).

IV. *Idiotopy (Relation of Component Uterine Segments).*—The most important idiotopic relation of the uterus is that of the cervix to the corpus. The corpus uteri moves through a wide zone, especially on a transverse axis through the isthmus uteri. The cervix is rela-

tively fixed. Certain technical terms are employed to designate the idiotopic relations, viz.: 1. If the entire uterus be rotated about its longitudinal axis it is termed (a) dextrotorsio uteri or (b) sinistrotorsio uteri. 2. If a transverse axis is passed through the isthmus uteri (i.e., at the junction of corpus and cervix at the os internum), the ventralward movements of the corpus on this axis will, when corpus and cervix assume a straight line (extended), be termed (a) anteversio uteri; when the cervix and corpus assume an angle with each other, the position is (b) ante-flexio uteri. If the movements of the corpus be dorsalward on the transverse axis until the corpus and cervix assumed a straight line, the position will be (a) retroversio uteri; if the corpus moves dorsalward on the transverse axis until the cervix and corpus assume an angle with each other, the position is (b) retroflexio uteri. 3. On a dorso-ventral axis through the isthmus uteri there can arise (a) latero-flexio uteri and (b) latero-versio uteri. Flexions, versions, and torsions of the uterus may be combined, presenting complicated positions. In gynecological practice no importance is to be attached to any uterine position unless it has progressed to such a degree that pathological symptoms arise from it. Flexions, versions, and torsions may represent normal uterine positions when perfect mobility exists. Dislocated uteri—i.e., uteri permanently fixed—are pathological. Versions (extensions), flexions, torsions, and deviations may all be physiological. Combinations of deviations are generally pathological, as retroversion (retroextension) combined with retroflexion should be viewed as pathological. It is this last combined position that is frequently accompanied by dysmenor-

rhœa and grave disturbances. For all normal positions of the uterus there belongs perfect mobility. All movements of the uterus, holotopic or idiotopic, are normal to a certain grade. The normal uterus with woman erect lies anteverted and antelected, the external os about on a level of the proximal border of the symphysis pubis; also the os externum being cut by the planum interspinosum, and the uterus will lie in the axis of the pelvic curve. The cervix projects ring-like in the proximal end of the vagina. The fundus uteri projects about one-third inch ventral and proximalward to the entrance of the oviducal entrance. The oviducal ostia lie laterally between fundus and corpus. The os uteri internum corresponds to the angle between corpus and cervix. The chief ingress and egress of blood-vessels to the uterus occur at the level of the internal os.

Various conditions influence the position of the uterus: Age relations of the uterus play a rôle, as (*a*) in foetal life there is the long cervix, short corpus, and prominent isthmus. The corpus is round and broad, while the cervix is longer than the corpus, representing the main segment of the uterus. The entire uterus is almost straight, extended, corresponding with the narrow pelvis and narrow, elongated bladder. In all cases examined there is a slight bending at the isthmus, showing a slight antelexion. The uterus assumes its definite typical position at pubertas. The size and structural relation is important in regard to position. In pueritas the uterus in size is absolutely and relatively small. The myometrium is limited and weak. The endometrium is thin. In pubertas the uterus swells, extends, and assumes different positions. The multipara uterus is larger

than the nullipara and extended; hence assuring altered position. The uterus swells, increases 25 per cent. in size at menstruation, and alters its position. In pregnancy the uterus changes its position, occupying the abdomen. Pregnancy leaves the myometrium thicker than in the nullipara. In nulliparæ the fundus is more like the segment of a dome than in the nullipara. The multipara in senescence has a bean-shaped uterus, and the borderline between corpus and cervix is almost obliterated. In senescence the slackening and elongation of supports induce the uterus to assume a distalward position in the pelvis. Intra-abdominal forces play a rôle in influencing uterine position. The most constant example is the changing position of the uterus through the respiratory rhythm. The knee and elbow attitude allows the uterus to pass proximalward, while in erect attitude it passes distalward. Vascular injection in the uterus, especially veins, at menstruation induces the uterus to become erect, decreasing its flexion at the isthmus. The condition of neighboring organs influence uterine position as: (*a*) the state of the tractus intestinalis, particularly the filling and emptying of the colon, sigmoid; (*b*) the state of the tractus urinaris, particularly the emptying and filling of the bladder; (*c*) the perimetrium; (*d*) the parametrium; (*e*) the pelvic floor. The shape of the bony pelvis, its special relations and inclination, markedly influence uterine position.

Treatment.—First and foremost, the cause of the designated position should be found. Dislocation of the uterus should not be mistaken for disease. It is the disease which caused the dislocation. Restoring a uterus within the

zone of normal position does not cure it. The central diseases which figure in the cause of uterine dislocation—fixation—are myometritis and pelvic peritoneal exudates. If myometritis and pelvic peritoneal exudates be cured, the uterus will assume the normal zone of position. The best remedies are continuous large, hot, vaginal douches and boroglycerin tampons. All such cases should drink 8 ounces of half-normal salt solution six times daily. This drains the visceral tracts, relieves congestion, and restores the great functions of life, viz.: appetite, sleep, normal feeling, ample evacuations of the tractus intestinalis, tractus urinarius, and tractus cutis. Scores of patients have dislocation of the uterus without symptoms; in fact, they are not aware of the existing dislocations; such patients should be treated by hot douches and tampon when the defect is discovered, as it may become worse when symptoms manifest. Ventral hysteropexy should never be performed on a child-bearing woman. The author has seen it cause death and much suffering. If any fixation of the uterus is performed, it should be ventral suspension; but that should be very seldom applied. Relatively few gynecologists now employ Alexander's operation, though that is the safest of abdominal fixations. We must learn to cure the myometritis and peritoneal exudates, which is the chief cause of the uterine dislocation. Byron Robinson (*St. Paul Medical Journal*, Oct., 1902).

VAGINAL FIXATION.

The operation performed by the writer leaves the fundus free, separating the vaginal wall from the bladder and stitching the anterior uterine wall. This operation permanently alters the

position of the uterus, and the position so obtained approximates more closely to the normal than that after any other fixation operation. There is no abdominal scar. There is no tendency to hernia. The risk is only that of the anæsthetic when the operation is performed by those skilled in vaginal surgery. It may be urged that this operation is difficult to perform and injury to the bladder apt to occur. Such an accident is not likely to happen if due care be exercised. He would use it in cases with backward displacement causing symptoms of little or no prolapse or dyspareunia, for cases with nervous symptoms following instrumental treatment, and for cases associated with severe dysmenorrhœa and sterility and backward displacement with adhesions, but no definite inflammatory masses in the pelvis, as in certain cases of cystocele. When adhesions are present, the writer opens the Douglas pouch and separates the adhesions, a gauze drain being used for this purpose. F. J. McCann (*British Medical Journal*, Oct. 11, 1902).

YELLOW FEVER AND SANITATION.

No more interesting story in the history of medicine has ever been told than that related by Major Gorgas, U. S. A., formerly Chief Surgeon of Havana under the United States authorities, with regard to the disappearance of yellow fever from that city. Everyone knows how the army medical department after the American occupation of Havana succeeded in reducing the death-rate of that city from 91.03 during 1898, the last year of the Spanish possession, to 22.11 for 1901, the last full year of American occupation. Eighteen hundred and ninety-eight was a war year, and its death-rate was undoubtedly abnormally high, but the death-rate in

Havana for ten years before the American occupation was nearly 45. During the last three months of United States rule, just before the management of affairs was handed over to the new Cuban government in April of the present year, the death-rate was scarcely more than 17, which is considerably lower than that of some of our own United States cities.

Notwithstanding the improvement in sanitation in Havana, however, the mortality from yellow fever did not decrease for several years. There were over 130 deaths from the disease during 1898, over 100 deaths in 1899, and nearly 300 deaths in 1900. Old inhabitants of the city smiled knowingly and said that yellow fever rather liked sanitary surroundings. Some of them hinted that the new-fangled notions of the Americans would only prove fosterers of suitable breeding conditions for the awful scourge the Cubans knew so well. This was the state of affairs when it was resolved to put into practice the theory that yellow fever is a mosquito-borne disease.

During the year 1900 yellow fever was prevalent particularly among members of the upper classes, and some of the most intelligent members of the community were afflicted. Sanitation alone had evidently failed to lessen the danger from disease. Men who could be absolutely depended on to take every possible precaution known in order to avoid all ordinary means of infection were stricken by the disease. Practically one-half of the members of the governor-general's staff died from yellow fever, during this year. If anything were to be done, it had to be done at once and no expense should be spared.

A system of inspection was initiated by which within two hours after the re-

port of a case of yellow fever the patient was thoroughly protected from mosquitoes by close netting. The whole house in which the patient lived was fumigated by burning pyrethrum powder, and all the mosquitoes' bodies swept up and burned, because it was found that sometimes the insects were only rendered comatose and subsequently recovered. The houses in the immediate neighborhood were also fumigated in the same way. Besides this, all standing water, whether in cisterns or vessels or pools, was drained off, in order that it might not form a breeding-place for the larvæ of the *Stegomyia fasciata*, the mosquito which is believed to carry yellow fever. Swamps that could not be drained were treated with petroleum.

The effect of these measures was very soon felt. The mosquito crusade was begun in February, 1901. During that month there were five deaths from yellow fever. In the preceding January there had been seven deaths from the disease. In March there was but one. In April no deaths from yellow fever occurred, and the same favorable state of affairs continued during May and June. In July there was one death from the disease, and then after a month of freedom from the affection a single other death from it in September. Since September, 1901, there has been no death from yellow fever contracted in Havana. This is, indeed, a triumph of sanitation—a landmark in the history of sanitary science.

There were only two places on this continent where yellow fever was endemic: Havana and Rio Janeiro. While the disease occurred very frequently in Vera Cruz in Mexico and other towns, Bahia in Brazil, or some of the Cuban sea-coast cities, none of these places were entirely free from the disease at

certain times except Havana and Rio Janeiro. Now one of these permanent foci of infection for other places has been taken out of the fell partnership, and the method by which it has been accomplished will prove a lesson that the other, Rio Janeiro, will not long neglect. It is probably only a question of a comparatively short time when yellow fever will be a memory, a nightmare of dread in medical reminiscence, but robbed of its terrors.

The army medical department is to be congratulated on the work it has accomplished. As we pointed out some time ago, this is only one of many things for which it deserves hearty tribute of praise. There is a lesson for the country in general in the matter, however, that physicians should not neglect to point out. The benefits that accrued to Havana are mainly due to the fact that the sanitary authorities were given a free hand, and that the physician governor-general not only did not hamper their work, but stimulated and encouraged them to the limits of his power. Already the cost of the war in lives and treasure has been saved many times over by the sanitary improvements effected. If those who raise opposition to the introduction of sanitary regulations could only be made to understand how much they hamper the progress of a great humanitarian work, there would soon be many causes for congratulation be-

cause of ameliorated hygienic conditions. If there were medical officials with ample authority, as in Cuba during the American occupation, then the obliteration of many physical evils might be expected here in the United States, too. For one thing, much might be accomplished without undue delay for the improvement of the condition of the tuberculous poor, and, as a consequence, of tuberculosis in the whole population. The examples of success of the army medical department, wherever it has been at work, should give renewed vigor to the movement for the establishment of a Department of Public Health whose head shall have a seat in the president's cabinet and be given the power to extend and enforce sanitary regulations. No more important development of our government could be made at the present time than this. It is almost impossible to foresee the extent of hygienic benefit that might result therefrom. The yellow-fever success could not have been anticipated two years ago, and without special government encouragement the problem might have remained unsolved for years.

There is food for earnest reflection and material for popular education in this bit of history that must not be allowed to fall into which, with apologies to our ex-president, has been well called innocuous desuetude. Editorial (*Medical News*, Nov. 15, 1902).

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Transactions of the American Otological Society, Thirty-fifth Annual Meeting, 1902.—Transactions of the Clinical Society of London. Volume Thirty-fifth. 1902.—Census Reports. Volume III. Twelfth Census of the United States, taken in the Year 1900. William R. Merriam, Director. Vital Statistics, Part I. Analysis and Ratio Tables. Volume II. Statistics of Deaths. 1902.—Enfermedades de la Nariz, Boca y Garganta. Por el Profesor Ramón de la Sota y Lastra, Sevilla, Spain. Volume III. 1902.—Acute Mastoiditis; its Dangers, its Irregularity in Symptoms, and the Question of Trephining. By Arthur Ames Bliss, Philadelphia. 1902.—Some Remote Diseases Arising from Tonsillar Infection. By F. Forchheimer, Cincinnati, Ohio. 1902.—The Use of the Term "Enanthem." By F. Forchheimer, Cincinnati, Ohio. 1902.—The Local Pathology of Acute General Infections Arising through the Lymphoid Tissue of the Fauces. By J. L. Goodale, Boston. 1902.—The Ultimate Results of Surgical Operations upon the Frontal Sinus and Maxillary Antrum. By Herbert Tilley, London, Eng. 1902.—Club-foot; Astraglectomy for Relapsed and Inveterate Cases. By De Forest Willard, Philadelphia. 1902.—Inflammation of the Mastoid Cells. By Samuel Theobald, Baltimore, Md. 1902.—Traumatic Rupture of the Gall-bladder without Injury of the Liver; Sixty-four Ounces of Bile in the Abdominal Cavity; Recovery. By De Forest Willard, Philadelphia. 1902.—Surgery of Tubercular Cavities of the Apex of the Lung. By De Forest Willard, Philadelphia. 1902.—Presidential Address, American Surgical Association, Albany Meeting, June 3, 1902. By De Forest Willard, Philadelphia. 1902.—Neurasthenia Cordis.—Weak Heart.—Irritable Heart. By Egbert Guernsey Rankin, New York. 1902.—Roentgen Rays in Pulmonary Disease. By Albert Abrams, San Francisco, Cal. 1902.—Nutrition in Pulmonary Tuberculosis. By A. W. Perry and Albert Abrams, San Francisco, Cal. 1902.—Spasmodic Bronchostenosis. By Albert Abrams, San Francisco, Cal. 1901.—Subcutaneous Injection of Paraffin in the Correction of Facial Deformities. By Harmon Smith, New York City. 1902.—The Value of Bacteriological Examination of the Discharge in Acute Otitis Media as Determining the Necessity of Operative Interference. By Edward Bradford Dench and Frank M. Cunningham, New York City. 1902.—Various Operative Procedures for the Relief of Chronic Suppurative Otitis Media, and Their Comparative Value. By Edward Bradford Dench, New York City. 1902.—Symptoms and Treatment of Chronic Empyema of the Sphenoidal Sinus. By Frank Whitehill Hinkel, Buffalo, N. Y. 1902.—Report of the Secretary of Agriculture, United States Department of Agriculture. 1902.—Foods and Food-control. By W. D. Bigelow, United States Department of Agriculture, Washington, D. C. 1902.—Laboratory Technique. Ring Test for Indol; Colloidium Sacs; Microphotography with Simple Apparatus. Hygienic Laboratory, United States Marine-Hospital Service, Washington, D. C. 1902.—Laboratory Course in Pathology and Bacteriology. By M. J. Rosenau, United States Marine-Hospital Service, Washington, D. C. 1902.—Presence of Tetanus in Commercial Gelatin. By John F. Anderson. United States Marine-Hospital Service, Washington, D. C. 1902.—Foods and Food-control. (II.) By W. D. Bigelow, United States Department of Agriculture, Washington, D. C. 1902.

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